

DM8600 Industrial Code Reader

User Manual



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1. Product Introduction

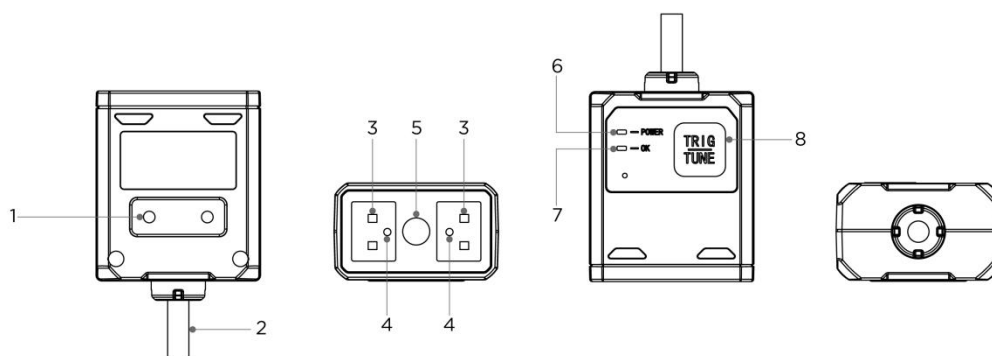
1.1 Product Description

This manual applies to the Tipcode DM8600 smart code reader series. The is an ultra-compact and cost-effective smart code reader that is plug-and-play and easy to operate. It efficiently reads 1D and 2D codes in industrial scenarios, supports entry-level DPM reading applications, and can be used in industries such as 3C, food and pharmaceuticals, electronics and semiconductors, automotive parts, and retail.

1.2 Main Features

- Plug-and-play, easy to operate, no learning curve, and convenient installation and commissioning
- Rich interface design, supporting Ethernet, serial port, USB, and I/O
- Custom high-depth-of-field lens with an ultra-wide installation distance range
- Compact size, suitable for installation in limited spaces
- Red/white light source options are available, with polarization available for complex scenarios

1.3 Appearance Overview



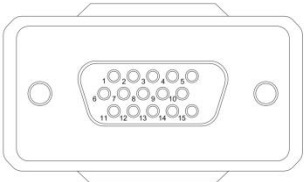
No.	Name	Description
1	Mounting Hole	Mounting hole for securing the smart code reader
2	Connection Cable	DB15 cable providing power, Ethernet,

		I/O, and USB functional wires
3	Light Source	Built-in red/white light source for supplemental illumination during image acquisition to ensure image quality
4	Aiming Light	Indicates the image center position for easy target aiming
5	Image Sensor	Used for image acquisition
6	POWER Indicator	Lights green when the device is operating normally; off when not operating
7	Reading Status Indicator	Lights green for OK and red for NG
8	TRIG/TUNE Button	Trigger/one-touch tuning button. Click once to trigger image capture; press and hold for 5 seconds to perform one-touch tuning.

1.4 Interface and Wire Definitions

The device interface is a DB15 interface. The detailed pin signal definitions are shown in the figure below.

When wiring the device, connect the wires according to the pin numbers in the table and the colors indicated on the cable labels.

DB15 Male Connector		Pin	Signal
		1	VCC
		2	RS232_TXD
		3	RS232_RXD
		4	GND
		5	LINE_IN0
		6	ENET_TX+
		7	ENET_RX-
		8	LINE_OUT0
		9	VBUS
		10	LINE_OUT1
		11	D-

	12	D+
	13	LINE_IN1
	14	ENET_TX-
	15	ENET_RX+

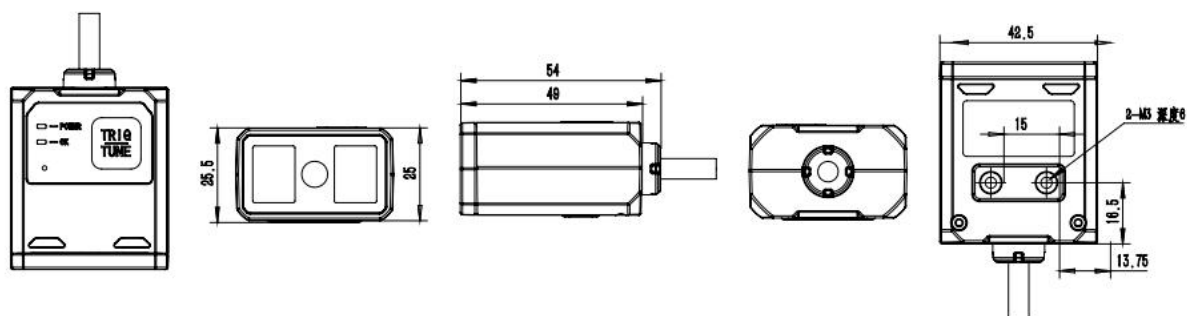
1.5 Accessories

To use the device properly, prepare the accessories listed in the table below before installation.

Accessory Name	Description	Image
Cable	DB15connection cable A type:RJ45+RS232+IO B type:USB+IO	
Power Supply	24 V power adapter (optional)	
L-shaped Mounting Bracket	L-shaped mounting bracket + screws (optional)	

Note: Select Type A or Type B cable according to requirements.

1.6 Hardware Dimensions



2. Device Installation and Operation

2.1 Device Installation

Use screws to mount the device onto the fixed bracket, and then mount the bracket onto other mechanical components.

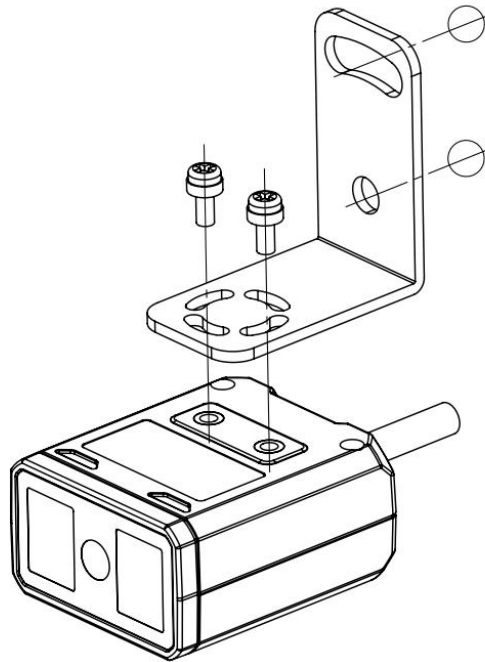
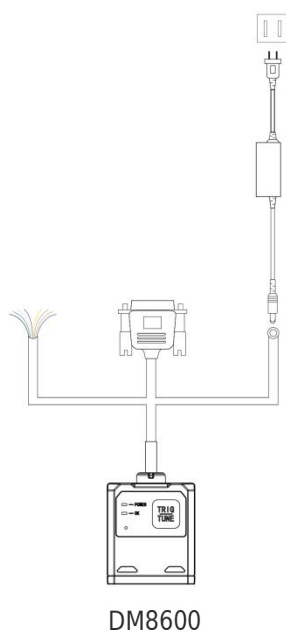


Illustration: Front installation

2.2 Power Connection

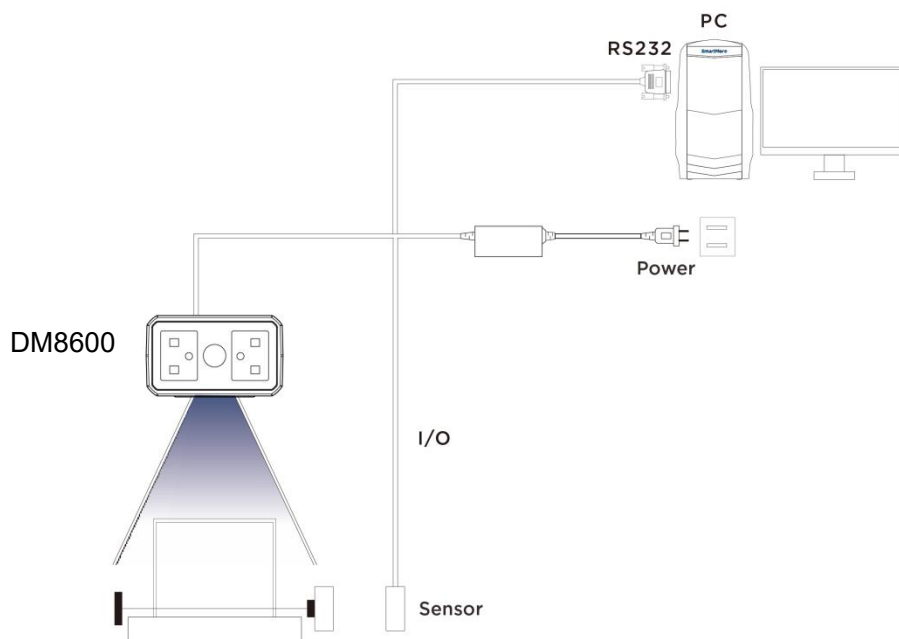
The device supports 24 VDC power, up to 3 A, and USB 5 V power supply. It supports direct 24 VDC connection, 220 VAC connection through an adapter, or USB power supply.



2.3 Communication Connection

A. RS232 Serial Connection

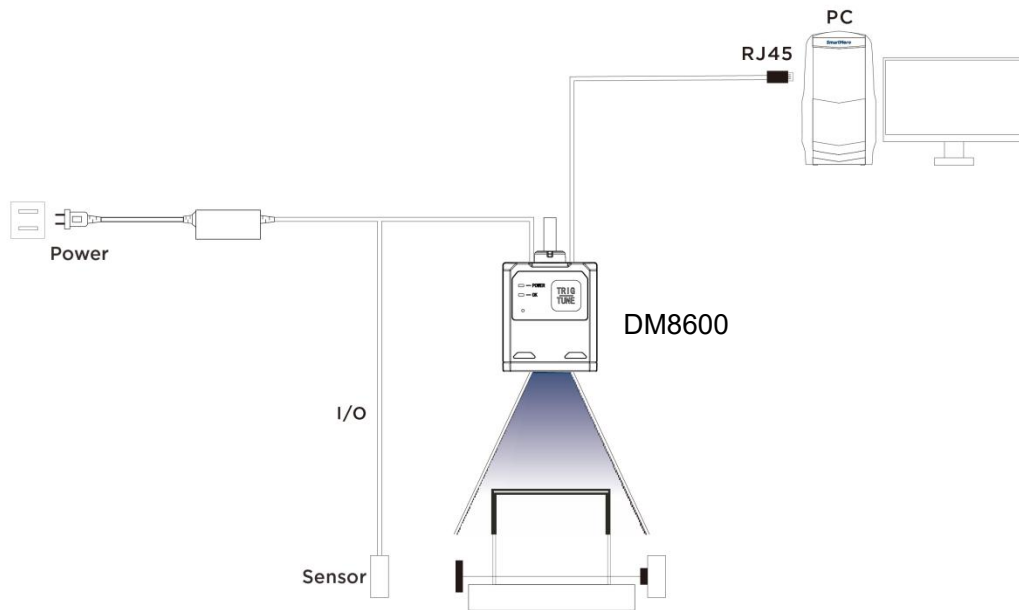
The default baud rate is 9600, parity is NULL, data bits are 8, and stop bit is 1. The actual parameters can be changed in the debugging software.



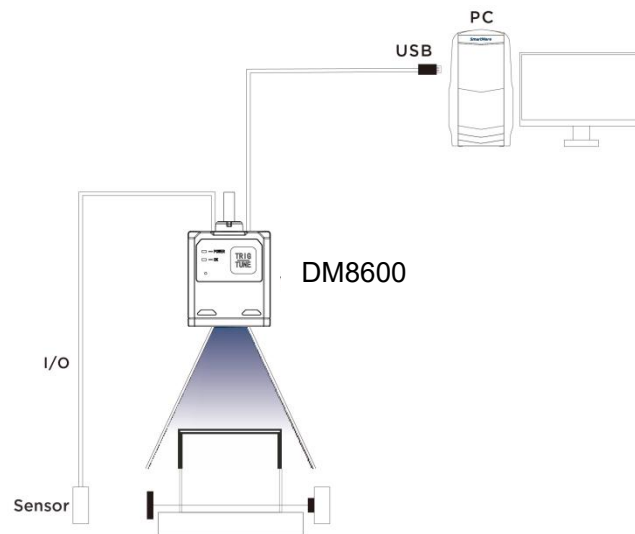
B. Ethernet Connection

The default IP address is 169.254.153.0 and the default data port is 15000.

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C. USB Connection



3. I/O Electrical Characteristics and Wiring

The DM8600 smart code reader has two non-isolated inputs and two non-isolated outputs.

3.1 I/O Electrical Characteristics

In the device I/O signals, LineIn 1/2 are non-isolated inputs and LineOut 1/2 are non-isolated outputs.

3.1.1 Input Electrical Characteristics

Parameter Name	Parameter Symbol	Parameter Value
Input Logic Low Level	VOL	0.6V
Input Logic High Level	VOH	2V
Input Falling-edge Delay	TDF	0.5us
Input Rising-edge Delay	TDR	1us

Description: Input logic low or high represents the voltage threshold of the input. Input rising-edge or falling-edge delay represents performance.*

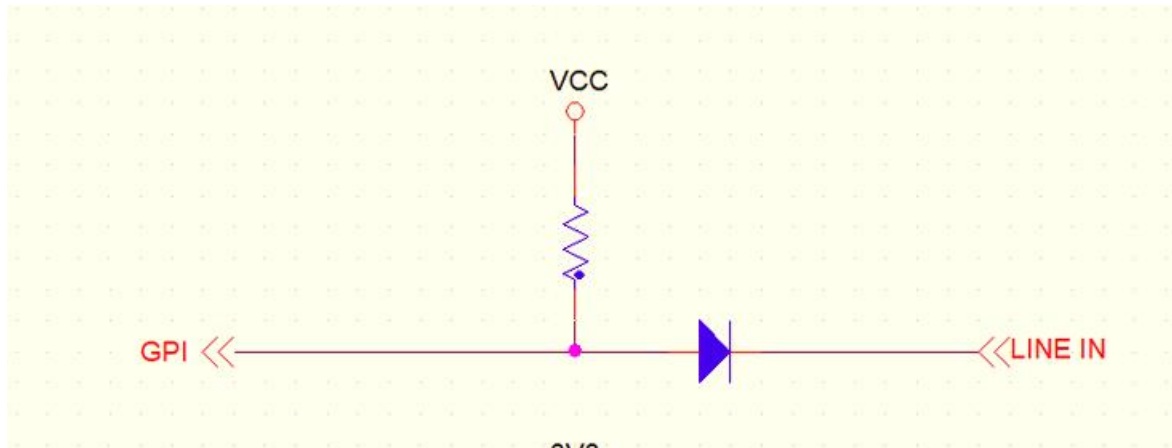
3.1.2 Output Electrical Characteristics

Parameter Name	Parameter Symbol	Parameter Value
Output Logic Low Level	VOL	0.7 V (maximum)
Output Logic High Level	VOH	Depends on pull-up resistor voltage
Output Falling-edge Delay	TDF	20.3ns
Output Rising-edge Delay	TDR	550ns
Output Fall Time	TF	12ns
Output Rise Time	TR	3.5us

3.1.3 Internal Input Wiring Diagram

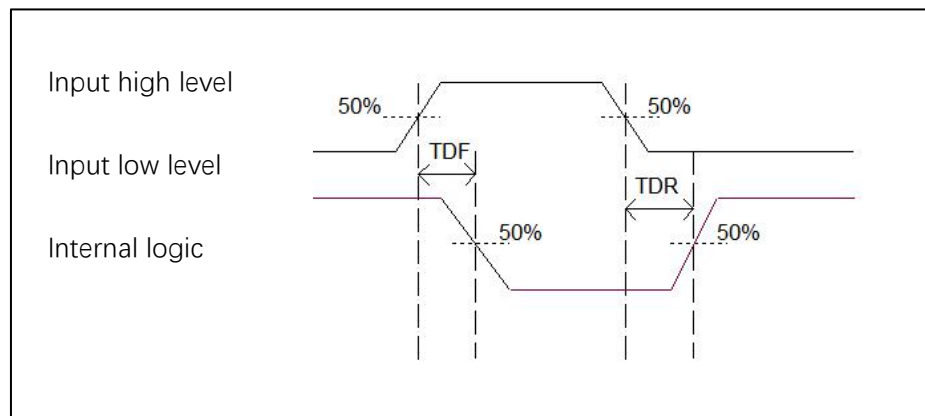
- Input Signal

In the device I/O signals, In 1/2 are non-isolated inputs. The input voltage range is 0-28 VDC.



Device Input Circuit Diagram

- Input logic levels are:

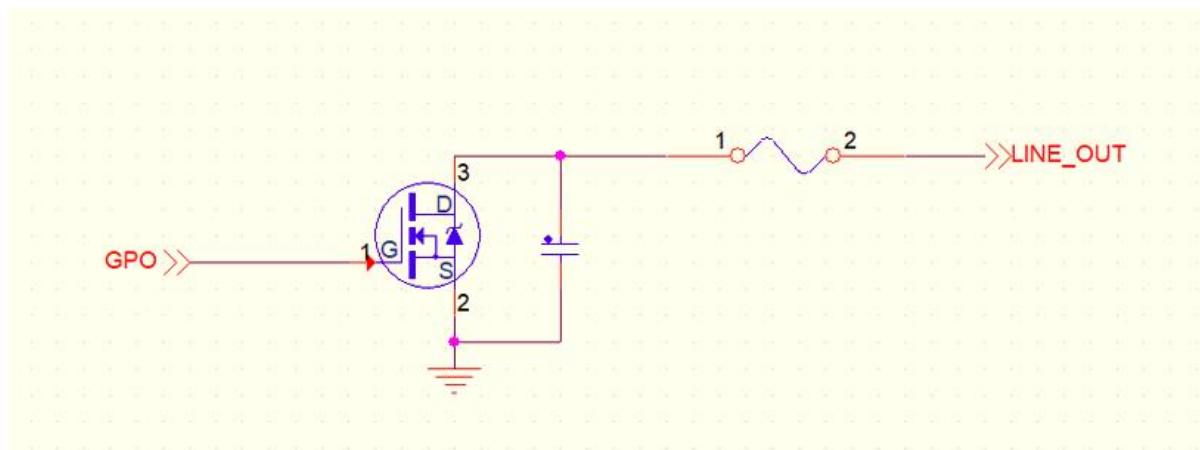


Input Logic Level Diagram

3.1.4 Internal Output Wiring Diagram

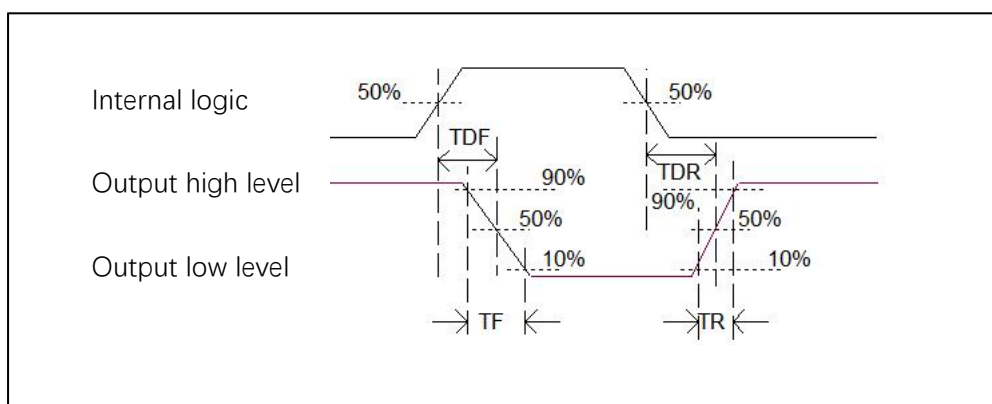
- Output Signal

In the device I/O signals, LineOut 1/2 are outputs. The output can drive a maximum VCC voltage of 28 V, and the output current must not exceed 50 mA.



Device Output Circuit Diagram

- Output logic levels are:



Output Logic Level Diagram

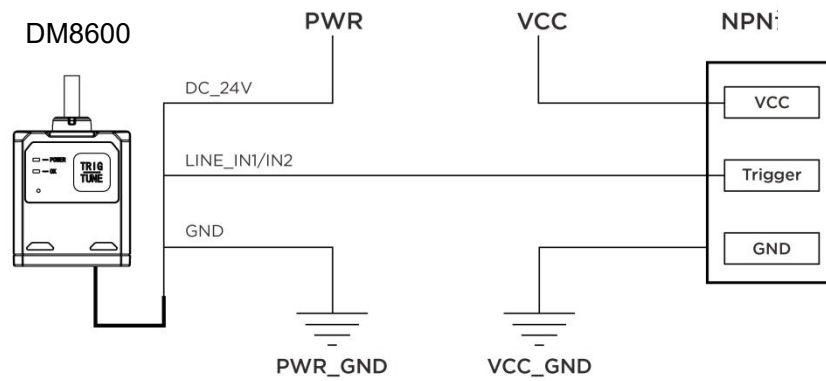
3.2 External I/O Wiring

The device can receive external input signals or output signals to external devices through the I/O interface. This section describes how to wire the I/O section. In the wiring diagrams, LineIn 1 is used as the input example and LineOut 1 is used as the output example. Other interfaces can be wired by referring to the cable definitions in the wiring diagrams and the interface descriptions.

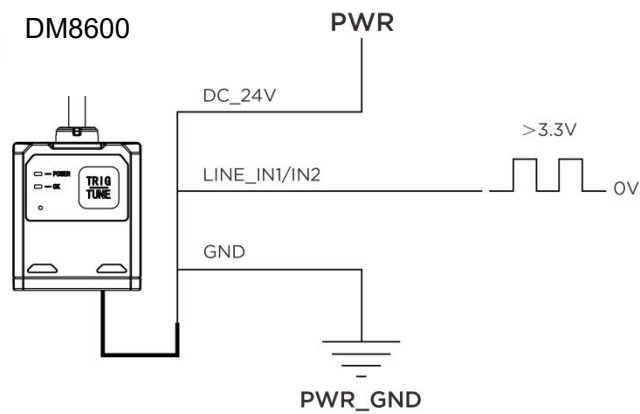
3.2.1 External Input Wiring Diagram

Input wiring varies depending on the device type.

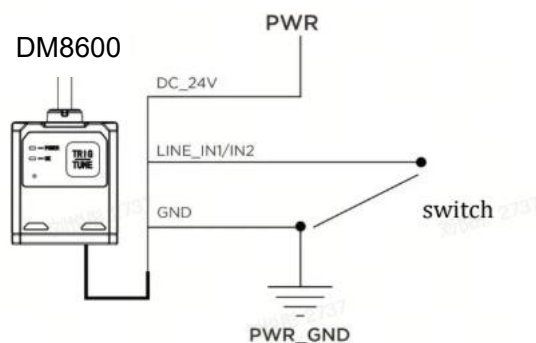
- Input signal is NPN



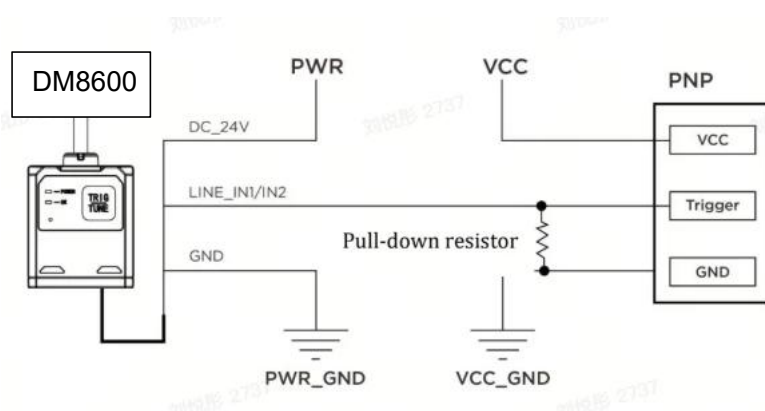
- Input signal is voltage input



- Input signal is switch input



- Input signal is PNP



Description*:

- 1) An external pull-down resistor is required, with resistance less than 1 k Ω . According to $P=U^2/R$, the rated resistor power must be greater than P. Several reference values are listed below:

VCC Voltage (V)	Pull-down Resistance (Ω)	Actual Resistor Power (W)	Recommended Rated Resistor Power (W)
5V	1K	0.025	1/8 W or above
12V	1K	0.144	1/4 W or above
24V	1K	0.576	1 W or above

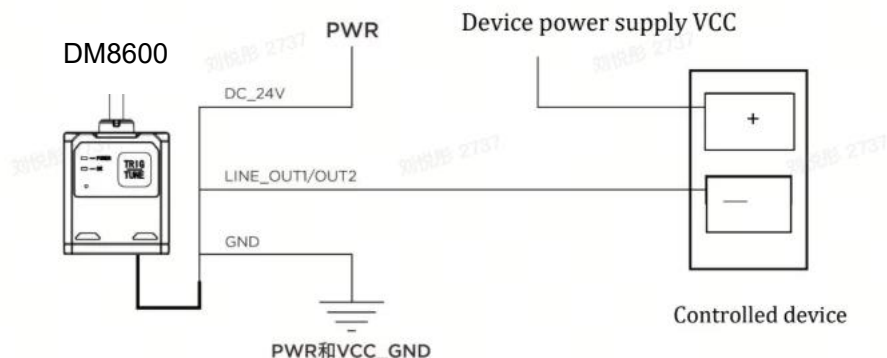
- 2) This connection requires an external resistor and is not recommended for direct input connection to PNP devices.

3.2.2 External Output Wiring Diagram

Output wiring varies depending on the device type.

- The external device is an optocoupler, alarm, indicator, or other device that requires direct control

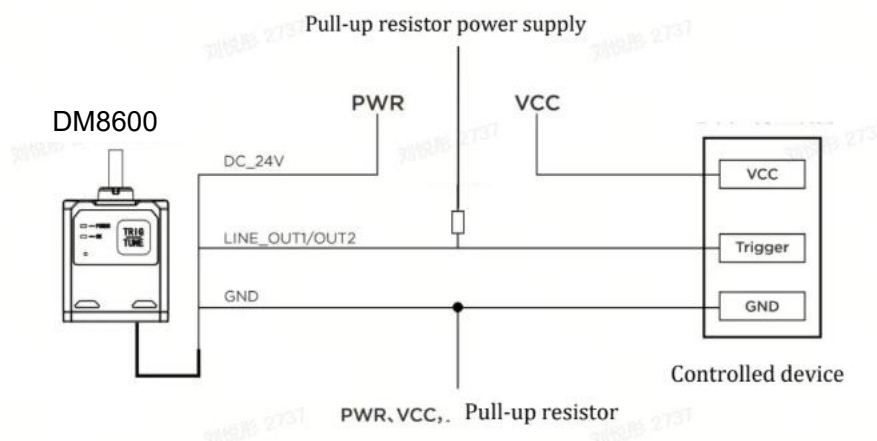
of the device power-supply loop.



Description*:

- 1) Do not drive inductive devices such as relays or motors.
- 2) The load current at the output must meet product specifications. Add a current-limiting resistor in series if necessary.

- **The external device requires high/low-level input.**



Description*:

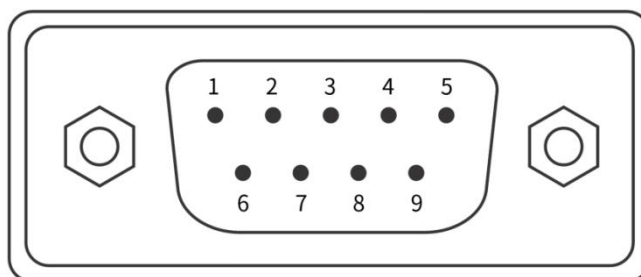
- 1) Measure whether the TRIGGER pin of the device carries voltage. If it does, the device has an internal pull-up resistor, so no external pull-up resistor is required. Note that the built-in voltage of the device must not exceed the DM8600 output control maximum voltage of 28 V.
- 2) If the trigger pin does not carry voltage, confirm the input voltage range of the device. The supply voltage of the pull-up resistor must not exceed the maximum input voltage of the controlled device and must be less than 28 V; otherwise the device and the code reader may be damaged.
- 3) It is recommended to calculate the resistance according to $P=U^2/R$ to ensure that the power is less than the rated power of the pull-up resistor; otherwise the resistor may be damaged.

3.3 RS-232 Serial Port

The device supports RS-232 serial output.

3.3.1 RS-232 Serial Port

The pin definitions of a commonly used 9-pin male 232 serial connector are shown below.



9-pin Male Connector

Pin Number	Meaning	Function Description
2	RX	Receive data
3	TX	Send data
5	GND	Signal ground

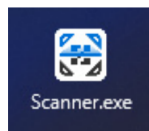
9-pin Male 232 Serial Port Definition

Note: The VCC voltage must not be higher than the PWR voltage; otherwise the device output signal may be abnormal.*

4. Client Installation and Operation

4.1 Software Connection

- Click "Tipcode" on the PC desktop and run the software as administrator.



- The smart code reader and the PC running the configuration software must be on the same network segment to connect.
- The default IP address of the DM8600 series is 169.254.153.0; gateway: 255.255.255.0.
- DHCP or a static IP address can be used to establish connection.

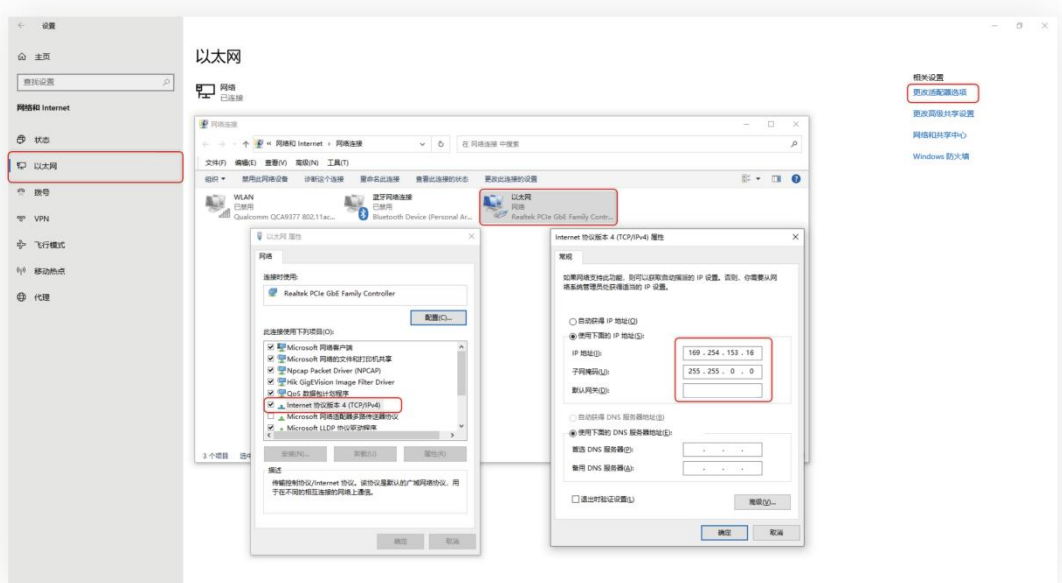


Modify IP

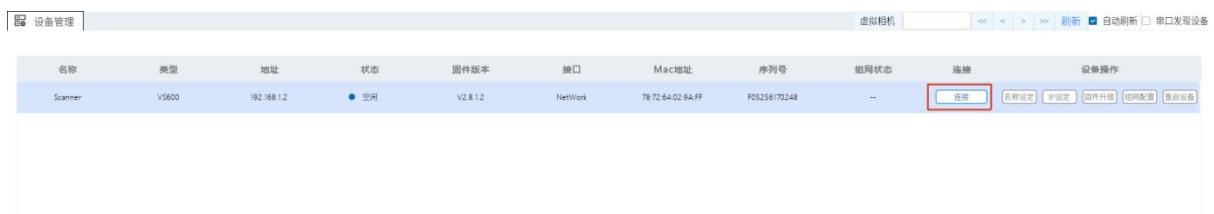
4.2 PC Network Configuration

4.2.1 Change the PC IP Address

- Procedure: 1) Using Windows 10 as an example, open Start Menu > Settings > Network & Internet > Ethernet > Change adapter options > Ethernet 3. Right-click Properties > Networking > Internet Protocol Version 4 (TCP/IPv4), and change the IP address of the corresponding PC network adapter to 169.254.153.16 (any IP in the same network segment is acceptable). Subnet mask: 255.255.255.0.

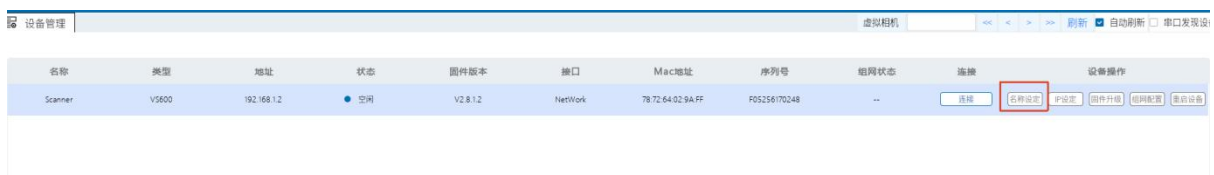


2) Open the configuration software, select the corresponding PC, and click Connect to complete the connection.



4.2.2 Change the Code Reader Name

- Customize the code reader name.



4.2.3 Change the Code Reader IP Address

- Procedure: Open the configuration software, select the corresponding PC network adapter, and wait for the code reader to appear. Click IP Setting > Use Static IP > One-click Match > OK to change the IP address to the same network segment as the PC.



4.3 Firmware Upgrade

- Procedure: Device Management > Device Maintenance > Firmware Upgrade. Select the firmware file and click OK to update the firmware. Wait for the restart to complete.



4.4 Networking Configuration

- Procedure: Device Management > Device Operation > Networking Configuration > Add specified slave device > Mode selection.

- Mode selection:

Multi-station communication mode: One code reader acts as the master and connects to multiple slave code readers. The master only forwards slave data and does not perform data interaction.

Multi-side reading mode: One code reader acts as the master and connects to multiple slave code readers. The master processes data from the slave devices and transmits the unified summarized data.

设备管理 | 虚拟相机 | << < > >> 刷新 自动刷新 串口发现!

名称	类型	地址	状态	固件版本	接口	Mac地址	序列号	组网状态	连接	设备操作
Scanner	V5600	192.168.1.2	空闲	V2.8.1.2	Network	78:72:64:02:9A:FF	F0525670248	--	连接	名称设置 IP设定 固件升级 组网配置 重启设备

组网配置

主站: Scanner

从站

☐	设备名称	类型	地址	设备编号
--------------------------	------	----	----	------

模式选择

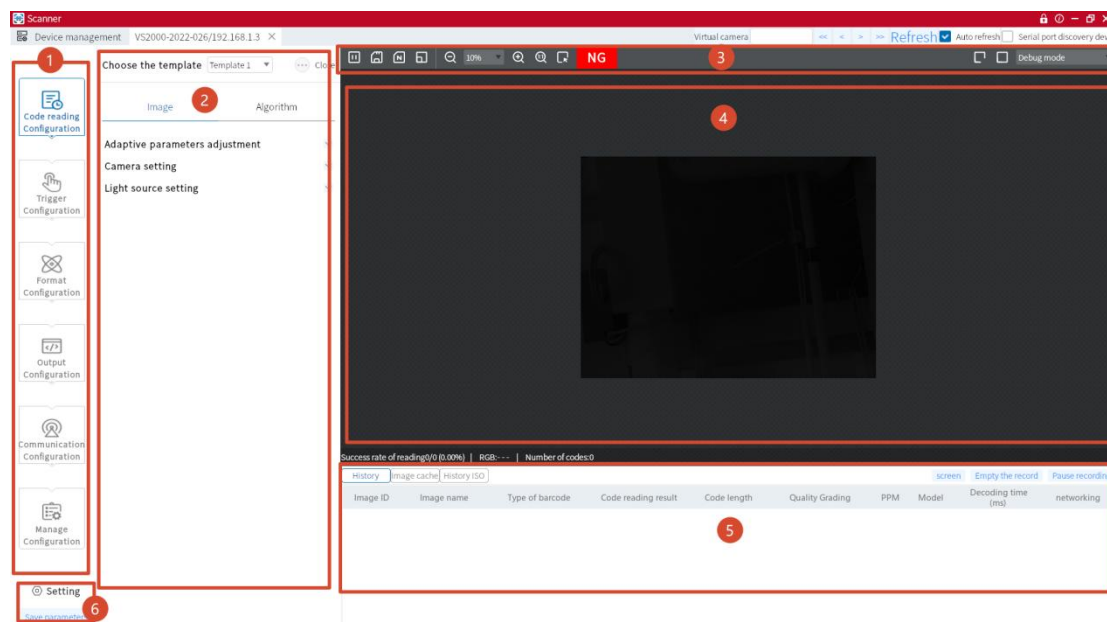
☒ 多站通讯模式 ☐ 多面读取模式

取消 确认

5. Client Function Introduction

5.1 Client Interface Overview

- The device can be operated through the client as follows:
 - After confirming that the device is reachable, select and click "Connect" in the client to connect to the device.
 - After the device is connected, the main client interface is shown below. Each function module is described in the table.

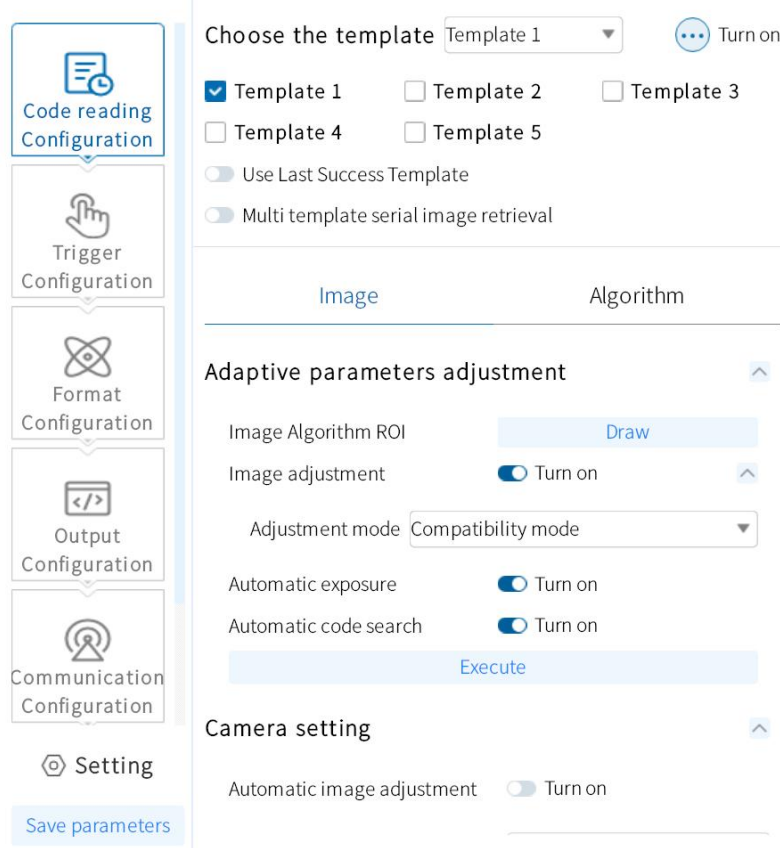


No.	Name	Function Description
1	Menu Bar	Sets the basic client functions.
2	Code Reader Configuration	Secondary menu in the menu bar for setting parameters of corresponding modules, including template selection, parameter settings, algorithm settings, etc.
3	Toolbar	Starts/stops image acquisition, captures and saves images, cancels ROI, zooms the preview, performs software trigger, switches operating mode, and provides other shortcuts.
4	Preview Window	Real-time preview of the current image acquired by the device, algorithm reading result, and drawn ROI window effect.
5	History	Displays the barcode information currently read by the client in real time.
6	Basic Settings	Allows you to change the device name, buzzer settings, and button settings, and to view code-reading statistics and device logs.

5.2 Code Reading Configuration

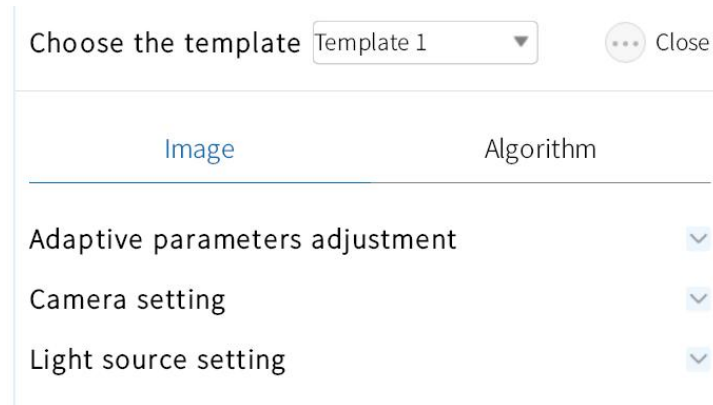
5.2.1 Template Selection

- The template type supports four templates, from "Template 1" to "Template 5", as shown below.
- Use the drop-down list in the upper-left corner of the "Code Reader Configuration" area to select a device template. After configuring the relevant code reader parameters, you can save the operating mode as a template.
- When multiple templates are selected, the device enters template polling mode and reads according to the selected templates within the task time. If "use the last successful template" is selected, the current task decodes using the template that succeeded in the previous task. If it is not selected, polling is performed in ascending order from Template 1 to Template 5.
- Multi-template serial image acquisition: When enabled, the current template completes image acquisition and decoding before moving to the next template. When disabled, multiple templates acquire images in parallel and decode sequentially. Disabled by default.



5.2.2 Image Acquisition

- If the recognition result is poor, adjust the "Image Acquisition" parameters in "Code Reading Configuration", including manual adjustment of camera and light source settings such as exposure time, gain, focus, and light source parameters. You can also use adaptive adjustment, where the device intelligently adjusts camera and light source settings.

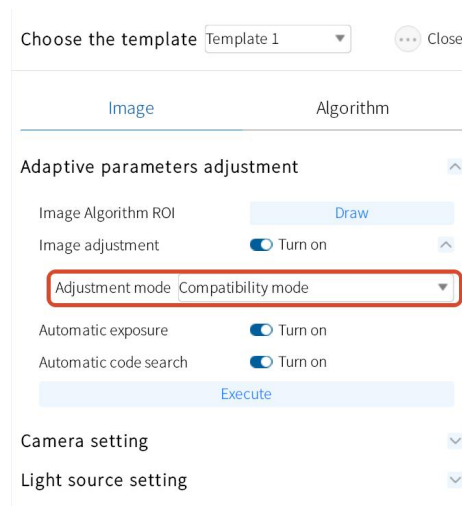


5.2.2.1 Adaptive Parameter Adjustment

- Adaptive parameter adjustment includes image algorithm ROI, image adjustment, and automatic symbology search. Select the required adjustment items (image adjustment, adjustment mode, automatic symbology search) and click Execute. The device automatically adjusts exposure, gain, symbology, and other parameters to achieve the best decoding result and applies the adjusted values to the corresponding parameter items.

- Image algorithm ROI: Click Draw to select the target region of interest for adjustment.
- Image adjustment mode:

(1) Compatibility mode: Balances gain and exposure time to provide the best overall imaging result.



(2) High-quality mode: Limits the maximum gain and prioritizes exposure adjustment to ensure image quality.

Choose the template

Template 1

...

Close

Image

Algorithm

Adaptive parameters adjustment

^

Image Algorithm ROI

Draw

Image adjustment

Turn on

^

Adjustment mode

High quality mode

▼

Maximum gain

255

Automatic exposure

Turn on

Automatic code search

Turn on

Execute

Camera setting

▼

Light source setting

▼

(3) Motion mode: Limits exposure time and prioritizes gain adjustment to meet code reading requirements in high-speed motion scenarios.

Choose the template

Template 1

...

Close

Image

Algorithm

Adaptive parameters adjustment

^

Image Algorithm ROI

Draw

Image adjustment

Turn on

^

Adjustment mode

Run Model

▼

Maximum exposure

8000

Automatic exposure

Turn on

Automatic code search

Turn on

Execute

Camera setting

▼

Light source setting

▼

- Automatic exposure (optional): When enabled, the light source status is included in the adjustment process.
- Automatic code search (optional): When enabled, the device automatically identifies the symbology information within the current field of view and the parameters required by the decoding algorithm.

5.2.2.2 Camera Settings

- Automatic image adjustment (optional): Dynamically adjusts image parameters.
- Exposure time: Controls the opening time of the code reader shutter and image brightness. The longer the exposure time, the brighter the acquired image. Adjust it by sliding the control or entering a value.
- Gain coefficient: Controls image gain and brightness. Adjust it by sliding the control or entering a

value.

Tip: The longer the exposure time, the lower the supported reading speed for moving objects. The higher the gain index, the more image noise.

Choose the template Template 1 ... Close

Image	Algorithm
Adaptive parameters adjustment ▼	
Camera setting ▲	
Automatic image adjustment ☐ Turn on	
Exposure time	1500
	
Gain coefficient	25
	
Light source setting ▼	

5.2.2.3 Light Source Settings

- The light source settings allow you to enable or disable the light source and aiming light according to the model and usage requirements.
 - Light source: Use this item to control whether the light source is on or off.
 - Positioning light: Use this item to control whether the aiming light is on or off.

Choose the template Template 1 ... Close

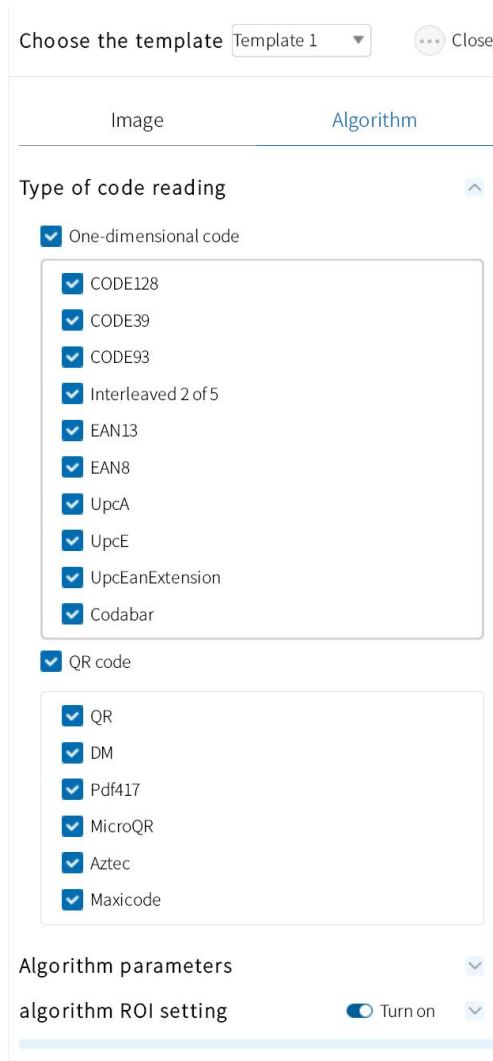
Image	Algorithm
Adaptive parameters adjustment ▼	
Camera setting ▼	
Light source setting ▲	
	
Lighting Source	☒
Positioning lamp	☒

5.2.3 Algorithm Configuration

- Use the "Algorithm Configuration" module to set parameters related to the code reading algorithm.

5.2.3.1 Code Type

- The current code reader supports two types: 1D barcodes and 2D codes. Select the symbologies that the device needs to read. Multiple selections are supported.
- As shown below, the algorithm configuration interface displays the selected symbologies. The more symbologies selected, the longer the algorithm processing time per image. It is recommended to select only the required symbologies according to actual needs for optimal performance.



Choose the template Template 1 Close

Image Algorithm

Type of code reading ^

☒ One-dimensional code

- ☒ CODE128
- ☒ CODE39
- ☒ CODE93
- ☒ Interleaved 2 of 5
- ☒ EAN13
- ☒ EAN8
- ☒ UpcA
- ☒ UpcE
- ☒ UpcEanExtension
- ☒ Codabar

☒ QR code

- ☒ QR
- ☒ DM
- ☒ Pdf417
- ☒ MicroQR
- ☒ Aztec
- ☒ Maxicode

Algorithm parameters v

algorithm ROI setting Turn on v

5.2.3.2 Algorithm Parameters

- Sets decoding parameters for 1D barcodes and 2D codes.
 - Algorithm timeout: Sets the algorithm timeout. If the algorithm processing time exceeds this value, image processing stops and the result is output.
 - Image preprocessing: Performs image preprocessing, including image processing tools such as erosion, dilation, and open/close operations.
 - Algorithm type: Can be set to Normal mode or Expert mode. Expert mode is recommended for complex scenarios.
 - GS1: Used for GS1-format output. Enabled: Retains parentheses in the barcode. Separator:

Customizable, used to set the separator between DI and PI. Disabled (default): Removes parentheses from the barcode.

- **GS1 extraction:** The numbers in GS1 extraction indicate the order of data segments divided by parentheses. Each selection extracts a data segment from the start position to the end of a specific parenthesized segment in the barcode.

Image	Algorithm
Type of code reading	v
Algorithm parameters	^
Algorithm time limit	600 ms
Image Preprocess	☐ Turn on
Algorithm type	Expert Mode
GS1	Close
GS1 interception	☐ Turn on

- **UDI (C128):** Used for UDI-format output. Combine: When DI and PI are assigned to two barcodes, enabling this item merges the barcodes for output. Separator: Customizable barcode separator. Disabled (default): Outputs them as two barcodes.

UDI(C128)	Close
DMECC	Close
1D/2D Barcode Configuration	combination
Application Mode	Separator
	EXPERT MODE

- **DMECC:** Selects different Data Matrix versions.

DMECC	ECC200
1D/2D Barcode Configuration	Auto
Application Mode	ECC000
Distortion degree	ECC050
QRVersion	ECC080
DMVersion_1	ECC100
	ECC140
2D Code Number	ECC200

- **1D/2D code parameters:**

(1) 1D Barcode

- **Operation mode:** Selects the decoding method. Different modes have different algorithm processing times and results. Options include Normal mode, High-speed mode, Expert mode, and Motion mode.

Application Mode	Expert Mode ▼
Distortion degree	Normal M...
QRVersion	Fast Mode
DMVersion_1	Expert Mode
2D Code Number	Run Model

- Code39 check: When enabled, one check digit is added to the data.
- UPCA to EAN13: Converts a UPC-A barcode to an EAN-13 barcode.
- Number of 1D barcodes: Limits the number of 1D barcodes to read.

Choose the template Template 1 Close

Image	Algorithm
Type of code reading	▼
Algorithm parameters	▲
Algorithm time limit	600 ms
Image Preprocess	Turn on
Algorithm type	Expert Mode ▼
GS1	Close ▼
GS1 interception	Turn on
UDI(C128)	Close ▼
DMECC	ECC200 ▼
1D/2D Barcode Configuration	One-dimensional code ▼
Application Mode	Normal Mode ▼
Code39 check	Off ▼
UPCA to EAN13	Off ▼
1D Code Number	1
algorithm ROI setting	Turn on ▼

(2) 2D Code

- Operation mode: Selects the decoding method. Different modes have different algorithm processing times and results. Options include Normal mode, High-speed mode, Expert mode, and Motion mode.
- Distortion level: Used to determine whether the code is distorted. Distortion severity is divided into low, medium, and high levels.
- QR Version: Used to select the QR version type. Accurate selection can reduce algorithm processing time. It is recommended to keep this off.
- Edge type: Discrete, continuous, and compatibility modes can be set.
- DM code type: Used to distinguish the Data Matrix type. Options are square and rectangular.
- DM Version_1: Used to select the Data Matrix version type. Accurate selection can reduce algorithm processing time. It is recommended to keep this off.
- Number of 2D codes: Limits the number of 2D codes to read.
- QR mode: Includes Auto, Mode 1, and Mode 2. Auto mode means the code reader automatically determines the QR code type and selects the appropriate decoding method. Mode 1 corresponds to QR Code Model 1; Mode 2 corresponds to QR Code Model 2.

Choose the template

Template 1

...

Close

Image

Algorithm

Type of code reading

▼

Algorithm parameters

▲

Algorithm time limit

600

ms

Image Preprocess

☒ Turn on

Algorithm type

Expert Mode

▼

GS1

Close

▼

GS1 interception

☒ Turn on

UDI(C128)

Close

▼

DMECC

ECC200

▼

1D/2D Barcode Configuration

QR code

▼

Application Mode

Expert Mode

▼

Distortion degree

high

▼

QRVersion

Close

▼

DMVersion_1

Close

▼

2D Code Number

1

▼

QR mode

Auto

▼

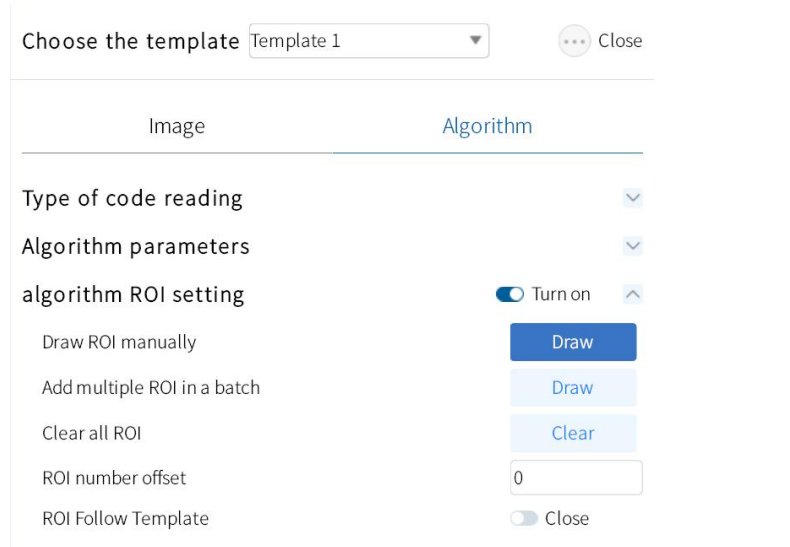
algorithm ROI setting

☒ Turn on

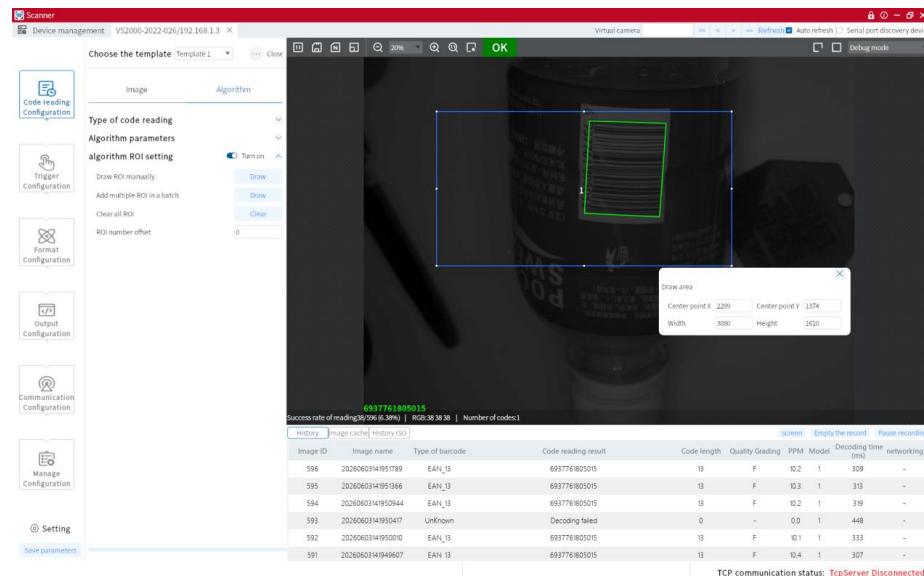
▼

5.2.3.3 Decoding Algorithm ROI Settings

- Algorithm ROI allows recognition only within selected regions of interest, while other regions are not processed, improving reading efficiency. Multiple algorithm ROI regions can be set, and barcode results are output in ascending order by the number of the ROI region where the barcode is located. Output rule: barcode 1, barcode 2, barcode 3, barcode 4. If no barcode is recognized in an algorithm ROI region, the barcode information for that region is changed to the configured noread character. Currently, manual ROI drawing and batch ROI adding are supported, and all ROIs can be cleared. ROI number offset: Allows the user to enter a number to set the starting ROI number. ROI follows template: Automatically sets ROI position and number according to the selected template.



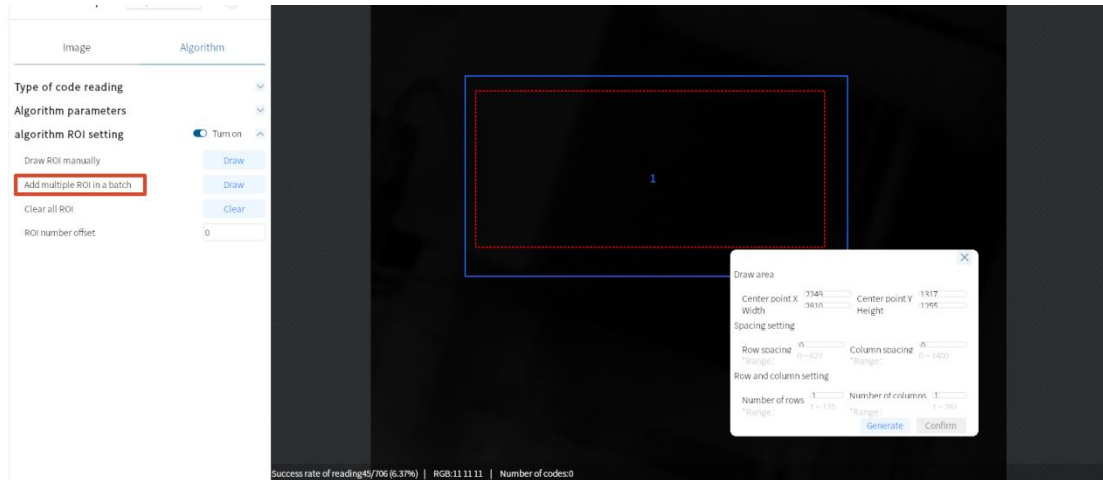
- **Manually draw ROI:** Click Settings to enter manual ROI setting mode. Drag to set the ROI size as required. The ROI size can also be precisely set using center point X/Y, width, and height. The selected area is the algorithm region of interest.
 - 1) Center X: X coordinate of the ROI box center.
 - 2) Center Y: Y coordinate of the ROI box center.
 - 3) Width: Number of pixels in the horizontal direction of the ROI.
 - 4) Height: Number of pixels in the vertical direction of the ROI.



- **Batch add ROI (grid):** Used to draw ROIs in batches.
 - 1) Drawing area: Center X: X coordinate of the batch setting area center. Center Y: Y coordinate of the batch setting area center. Height: Number of pixels in the vertical direction of the batch setting area. Width: Number of pixels in the horizontal direction of the batch setting area (default is the maximum number of pixels).
 - 2) Spacing setting: Row spacing is the distance between ROI rows; column spacing is the distance between ROI columns.

3) ROI quantity (rows * columns): Sets the number of ROI rows and columns in batches. The maximum value is dynamically adjusted according to the drawing area size and row/column spacing.

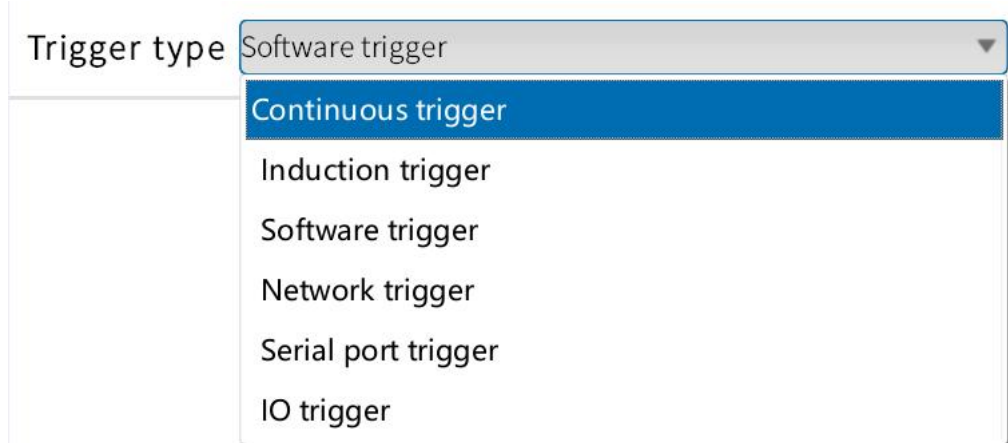
4) Generate: Confirms the above settings.



- Clear all ROIs: Clears all current ROIs.

5.3 Trigger Configuration

- trigger type contain "continuous trigger", "I/O trigger", "software trigger", "network trigger", "serial port trigger", "Induction trigger".



5.3.1 Continuous Trigger

- Continuous trigger means that the code reader continuously triggers image capture.
- Read success status feedback (ms): Turns off the light source after a set time following a successful read.

Trigger type

Continuous trigger

Reading interval time

0

 ms

5.3.2 I/O Trigger

- I/O trigger: The code reader triggers image capture and decoding after receiving a signal.
 - Task start settings:
 - Trigger signal: On the task start settings page, trigger signals are divided into "Line0" and "Line1", corresponding to hardware trigger inputs IN0 and IN1.
 - Trigger form: In task start settings, trigger forms include rising edge and falling edge. Rising edge means the code reader starts reading when it receives a rising-edge signal; falling edge means it starts reading when it receives a falling-edge signal.
 - Delayed trigger: On the start trigger page, trigger delay means reading starts after the set delay time following receipt of the trigger signal. On the stop trigger page, trigger delay means reading stops after the set delay time following receipt of the stop trigger signal. Default is 0 ms. Setting range: 0-9999 ms.

Trigger type

IO trigger

IO trigger

Task Start Settings

Trigger signal

Line0

Trigger form

Rising edge

Delay trigger

0

 ms

2) Task image capture settings:

- Image acquisition mode: Includes buffer mode and non-buffer mode. Non-buffer mode is a serial operation mode for image acquisition and decoding. Buffer mode is a parallel operation mode for image acquisition and decoding, suitable for moving barcodes whose positions are not fixed.
- Maximum number of images (in buffer mode): Sets the number of images required for the buffer. Value range: 1-40 (varies by device).
- Image selection frequency (in buffer mode): Sets how many images are selected from the buffer for recognition.

Task photography settings

Image collection mode

Cache Mode

Maximum number of images

10

get image frequency

1 out of 1

3) Task end settings:

- **Multi-code end:** When enabled, the configured number of barcodes is used as the end condition. If the read quantity is not reached and task timeout is not enabled, the device continues reading (excluding duplicate codes). When task timeout is enabled, the task timeout setting is used as the exit condition.
- **Timeout end:** Sets the maximum task time for a single trigger. After triggering, if the timeout is reached and the task has not ended, it is forcibly ended. Default: 9999. Setting range: 10-99999 ms. Effective when enabled.
- **End when maximum images in buffer mode are reached:** This item is linked to buffer mode and cannot be modified. When buffer mode is enabled, the task ends after the number of decoded images reaches the maximum number.
- **End on signal:** Ends the task when a task end signal is received.
- **End signal:** On the task end settings page, trigger signals are divided into "Line0" and "Line1", corresponding to hardware trigger inputs IN0 and IN1.
- **End signal form:** On the task end settings page, trigger forms include rising edge and falling edge. Rising edge means the code reader stops reading when it receives a rising-edge signal; falling edge means it stops reading when it receives a falling-edge signal.
- **Delayed end:** Sets the task end delay time. After triggering, when the task time limit is reached, delayed termination is performed. Default: 0. Setting range: 0-99999 ms. Effective when enabled.

Trigger type

Task End Settings

Multiple choices are allowed, and if any condition is met, the task will end
If not selected, read a code to end the task

☐ Multi code end
 Codes

☒ Timeout ended
 ms

☒ The maximum number of images reached in cache mode has ended

☒ Received signal completed

End signal

End signal form

Delay End
 ms

Advanced Options

Please read the description carefully before enabling the following advanced options
Please note that some options may delay the end of the task

4) Advanced options:

- **Fix task time to timeout (commonly used for output at a fixed time):** When any end condition is met, image capture stops, and the task ends only when the task time reaches the timeout.
- **Stop immediately on end signal:** Effective when both buffer mode and end signal are enabled. When an end signal is received, decoding of remaining buffered images is abandoned and the task ends immediately.
- **Continuous reading during the task:** Ends only on timeout, when the maximum number of

images is reached, or when an end signal is received. If unified result sending is not enabled, results are output after each image is decoded.

Advanced Options

Please read the description carefully before enabling the following advanced options

Please note that some options may delay the end of the task

- ☐ The task time is fixed to a timeout time
- ☐ Stop immediately upon receiving the end signal
- ☐ Continuous code reading during the mission period

5.3.3 Software Trigger

- Click "Software Trigger" with the mouse to trigger image capture. Triggering means the code reader performs image capture and decoding after receiving a signal.

Trigger type

[Software trigger](#)

5.3.4 Network Trigger

- Network trigger means that the code reader performs image capture and decoding after receiving a TCP trigger command signal.

1) Start trigger & end trigger: Used to set the related parameters for TCP start trigger and end trigger.

Trigger signal: Sets the TCP command used for start trigger and end trigger.

Result trigger enable: When enabled, the code reader transmits reading results only after receiving a trigger signal from the host computer.

2) Advanced options:

- Use hexadecimal: When enabled, the start/end trigger signal character setting format is hexadecimal output.
- Ignore leading/trailing CRLF (OD 0A): Ignores carriage return and line feed characters before and after the trigger string during matching.
- Command is substring: Triggers as long as the trigger string is a substring of the input string.
- Fix task time to timeout: Effective only when timeout end is enabled. When any end condition is met, image capture stops, and the task ends only when the task time reaches the timeout (commonly used for output at a fixed time).
- Decode the maximum number of buffered images: Effective only in buffer mode. Even if an end condition is met, the task ends only after the maximum number of buffered images has been decoded.
- Stop immediately on end signal: Effective when both buffer mode and end signal are enabled. When an end signal is received, decoding of remaining buffered images is abandoned and the task ends immediately.
- Continuous reading during the task: Ends only on timeout, when the maximum number of

images is reached, or when an end signal is received. If unified result sending is not enabled, results are output after each image is decoded.

- End trigger enable: Outputs results externally only after receiving the trigger signal.
- Trigger signal: Sets the TCP command used for end trigger.

Trigger type
 Network trigger

Task Start Settings

Trigger signal
 start

Trigger starts
 0
 ms

Photo Settings

Image collection mode
 Cache Mode

Maximum number of images
 10

get image frequency
 1 out of 1

Trigger ends

Multiple choices are allowed, and if any condition is met, the task will end
If not selected, read a code to end the task

☐ Multi code end
 1
 Codes

☒ Timeout ended
 9999
 ms

☒ The maximum number of images reached in cache mode has ended

Received signal completed

End signal
 stop

Delay ends
 0
 ms

Advanced Options

Please read the description carefully before enabling the following advanced options
Please note that some options may delay the end of the task

☐ Using Hex numbers

☐ Ignore first and last carriage returns and line breaks (0D 0A)

☐ Instruction is a substring

☐ The task time is fixed to a timeout time

☐ Stop immediately upon receiving the end signal

☐ Continuous code reading during the mission period

5.3.5 Serial Trigger

- Serial trigger means that the code reader performs image capture and decoding after receiving a serial trigger command signal.

Note: Other parameters are the same as I/O and network settings. Refer to those sections.

Trigger type
Serial port trigger

Task Start Settings

Trigger signal
start

Trigger starts
0
ms

Task photography settings

Image collection mode
Cache Mode

Maximum number of images
10

get image frequency
1 out of 1

Task End Settings

Multiple choices are allowed, and if any condition is met, the task will end
If not selected, read a code to end the task

☐ Multi code end
1
Codes

☒ Timeout ended
9999
ms

☒ The maximum number of images reached in cache mode has expired
Quantity range: 1 ~ 10 images

Received signal completed

End signal
stop

Delay ends
0
ms

Advanced Options

Please read the description carefully before enabling the following advanced options
Please note that some options may delay the end of the task

☐ Using Hex numbers

☐ The task time is fixed to a timeout time

☐ Stop immediately upon receiving the end signal

☐ Continuous code reading during the mission period

5.4 Format Configuration

5.4.1 Format Configuration

- Format configuration includes four sections: Data Filtering, Data Processing, Advanced Functions, and Host Networking Data Processing. It is used to set device filtering rules and output data.

Configuration of format
Configuration of format

Data filtering

Data processing

Advanced features

1) Data Filtering

- Data filtering filters the barcodes read by the device according to configured rules.

- 1) Duplicate time filtering: When enabled, duplicate codes within the set time are not output. (Value range: 30-9999999 ms)

Example: If set to 500 ms and the code content is 123452, only one result is output when it is read multiple times within 500 ms.

- 2) Duplicate quantity filtering: When enabled, if the same content is read more times than the set value, it is not output. (Value range: 1-99999)

Example: If set to 3 and the code content is 123452, the output count of 123452 cannot exceed 3.

- 3) Duplicate barcode filtering: When enabled, if the read content is the same as the previous content, it is not output.

Note: When single-code filtering is not enabled, duplicate barcode filtering takes effect only when the content of the previous task and the current task is completely identical.

Separate single-code filtering: This function applies to time, quantity, and barcode filtering. When enabled, only barcodes that duplicate the previous task are filtered, while non-duplicate parts are output.

- 4) Duplicate barcode merge: When enabled, identical read content is merged into one result for output.
- 5) Filter ignores NG: When enabled, filtering does not consider NG cases. Used with duplicate quantity/time/barcode filtering.
- 6) Filter subset inclusion: When enabled, if the previous result and the next result have an intersection of subset results, the two results are considered identical.

Example: Result A: 12345 and Result B: 234 are considered the same and need to be filtered.

- 7) Center point filtering: When enabled, only the barcode closest to the image center is output.
- 8) Angle filtering: When enabled, only barcodes within the angle range are output.
- 9) Barcode quantity filtering: When enabled, output is performed only when the number of barcodes matches the set value. (1-200)

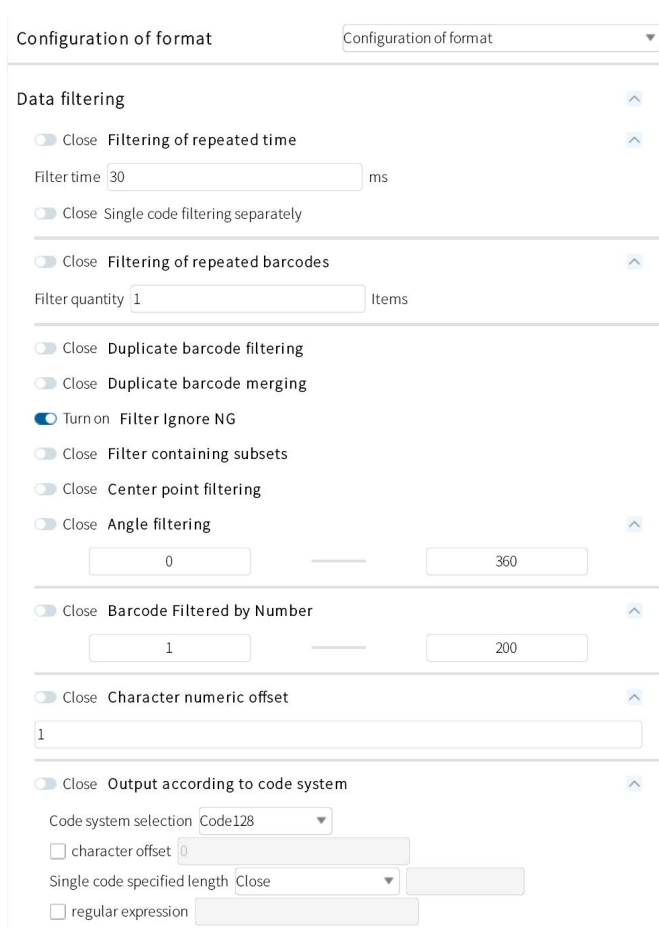
10) Barcode grade filtering: Filters according to the grade of 1D barcodes and 2D codes. The barcode grade of the decoding result must meet the set parameters; otherwise it is NG.

11) Character digit offset: Moves the decoding result left by the set number of digits. (1-99)

Example: Code: 1232334. If set to 3, the code output information is 2334.

12) Output by symbology: Select and define different symbologies, character offset, specified length for a single code, and regular expressions.

Example: Code 54321. If specified single-code length is set to truncate from the beginning and the value is 2, the code output information is 4. If truncate from the end is selected and the value is 2, the code output information is 2.



- Barcode length limit: When enabled, only codes within the limit range are output.
- Block specified characters: Enter the specified characters to be blocked. The system automatically filters or deletes them and does not send or display them.
- Block special characters: Blocks ASCII control characters 0x00-0x1F while retaining line feed (0x0A) and carriage return (0x0D).
- Block prefix: When enabled, blocks codes whose decoding result begins with the set value. Multiple prefixes are supported.

- Specified prefix: When enabled, only codes with the specified prefix are output. Multiple prefixes are supported.
- Specified suffix: When enabled, only codes with the specified suffix are output. Multiple suffixes are supported.
- Must contain: When enabled, outputs codes that contain the set content. Multiple required contents are supported.
- Must not contain: When enabled, outputs codes that do not contain the set content. Multiple excluded contents are supported.
- Character requirement: All digits: outputs only digits; Letters: outputs only letters; Digits or letters.
- Barcode verification: Enter target character information to verify whether the above filtering conditions are met. If nothing is entered, OK/NG is not displayed. OK is displayed when the conditions are met; NG is displayed when they are not met.

Configuration of format
 Configuration of format

Decoding content processing
 Close Barcode length limit
 Multiple conditions are separated by ","

Block specified characters
 Multiple conditions are separated by ","

Close Block special characters

Close Block the beginning
 Multiple conditions are separated by ","

Close Specify the beginning
 Multiple conditions are separated by ","

Close Specify the end
 Multiple conditions are separated by ","

Close Must contain
 Multiple conditions are separated by ","

Close Cannot contain
 Multiple conditions are separated by ","

Close Character requirement
 Full numbers
 Full letters
 Letters or numbers

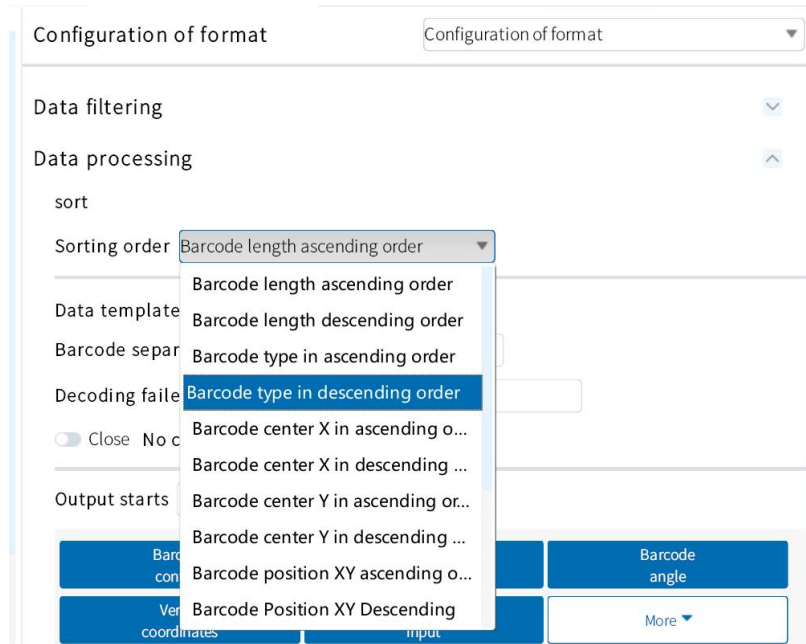
Barcode verification

Data processing

Advanced features

2) Data Processing

- The data processing section configures barcode results output by the device. Specific parameters vary depending on the selected communication protocol.
- Sorting method: Sorts symbology output results. Multiple sorting rules are supported:
 - ① Barcode length ascending: Sorts from shortest to longest barcode content.
 - ② Barcode length descending: Sorts from longest to shortest barcode content.
 - ③ Barcode type ascending: 1D: code39, 93, 128, ITF25, EAN; 2D: QR/DM.
 - ④ Barcode type descending: 2D: DM/QR; 1D: EAN, ITF2/5, code128, 93, 39.
 - ⑤ ROI ascending: Sorts by configured ROI number from small to large.
 - ⑥ ROI descending: Sorts by configured ROI number from large to small.
 - ⑦ Barcode center X ascending/descending: Sorts by code center X position from small to large (reverse for descending).
 - ⑧ Barcode center Y ascending/descending: Sorts by code center Y position from small to large (reverse for descending).
 - ⑨ Barcode position XY ascending/descending: Sorts by X from small to large and Y from small to large (reverse for descending).
 - ⑩ Sort by specified content: Sorts according to a field or character content specified by the user.
 - ⑪ Sort using specified content as first character: Extracts specified content as the first character for sorting.



- Data template: Used to set barcode result output by the code reader.
 - ① Barcode separator: Used to separate multiple codes. The default is semicolon (;). Available separators include semicolon (;), comma (,), slash (/), backslash (\), underscore (_), hyphen (-), carriage return (\r), carriage return + line feed (\r\n), None, etc. Custom separators are supported.
 - ② Decode failure output character: Character output when task decoding fails. Customizable.
 - ③ ROI no-read padding: Automatically pads the failure character for regions where no code is read.
 - ④ Output start/end: Sets the content of the start/end part of output data according to actual needs.
 - ⑤ Output content configuration includes barcode content, barcode type, barcode angle, vertex coordinates, text input, ROI number, PPM, time, barcode quality, CRLF, carriage return, line feed, hexadecimal input, barcode quantity, etc.

Configuration of format

Configuration of format

Data filtering

Data processing

sort

Sorting order Barcode length ascending order

Data template

Barcode separator

Decoding failed to output characters

☐ Close No code displayed in ROI

Output starts

Barcode content

Barcode type

Barcode angle

Vertex coordinates

Text input

More

{code_content}{newline}

Qualified

Output ends

Advanced features

3) Advanced Functions

- UnicodeToUTF8: Converts decoding results in Unicode format to UTF8 format.
- UTF8ToASCII: Converts decoding results in UTF8 format to ASCII format.
- GBKToUTF8: Converts decoding results in GBK format to UTF8 format.
- Hex replaces special characters: Replaces invisible characters in the ASCII table in the decoding result with the corresponding hexadecimal values.
- Output NG when NG has results: When enabled, partial barcodes are output even if the read quantity does not meet the total read quantity set for triggering.
- NG with result as OK: The overall trigger task result is NG, but this task has decoding results, so OK is finally output.
- I/O output when failure output is empty: If the above decode failure output character is empty, I/O output is still performed when the task fails.
- Output results one by one: If there are multiple decoding results, each result is output one by one according to the set time. (0-9999 ms)
- Specified single-code length: The decoding result is truncated to a specified length for output. Options: truncate from beginning, truncate from end, and off.
- Output specified length: When enabled, barcode characters are output by truncating from the

beginning or end according to the set value.

- Whether multi-code enable is an end condition: Indicates whether multi-code enable in the trigger task is achieved and whether it is used as the end condition for the current trigger task.
- OK result send delay: When the task is OK, the external result is sent after the set delay time. (0-9999 ms)
- NG result send delay: When the task is NG, the external result is sent after the set delay time. (0-9999 ms)

Configuration of format
 Configuration of format ▼

Data filtering ▼

Data processing ▼

Advanced features ▲

☐ Close UnicodeToUTF8

☐ Close UTF8ToASCII

☐ Close GBKToUTF8

☐ Close Hex replaces special characters

☐ Close NG has results output NG

☐ Close NG has a result that is OK

☐ Close Output results one by one 0 ms

Single code specified length Close ▼ X; X-x; X multi...

Output Length Close ▼ 0

Does the multi code enable end condition Yes ▼

OK result sending delay 0 ms

NG result sending delay 0 ms

5.4.2 Script

- Format configuration (script): Used to customize processing of reading results. The system-acquired data is recombined and output through scripts.

Configuration of format
script

☐ Open script

☐ Block data processing

Variable Name	data source	data type
+		

run
Save

5.5 Output Configuration

- Output settings can control three different output controls: "OUTLINE0" and "OUTLINE1", corresponding to hardware trigger outputs "OUT0" and "OUT1" respectively.
 - ① Reading status: "OUTLINE0" and "OUTLINE1" can be set to three statuses: reading successful, reading failed, and abnormal. Reading successful means a success output signal; reading failed means a failure output signal; abnormal means an output signal for device self-check abnormality.
 - ② Output inversion: Enable output inversion if the device needs to output the opposite signal.
 - ③ Receive IN signal: When the code reader detects a signal change on an input port (IN port), it triggers the corresponding output signal. Four signal changes are available: IN0 rising edge, IN0 falling edge, IN1 rising edge, and IN1 falling edge.
 - ④ Heartbeat timeout: Outputs an alarm signal when network disconnection, PLC offline status, or device communication abnormality occurs.
 - ⑤ Trigger string: A custom string. When the device receives or recognizes the specified string, it

triggers the corresponding action.

⑥ Output duration: Duration of the output signal. Time range: 0-999999999 ms. Leaving it blank means infinite duration.

⑦ Reset option: Sets the condition under which the current output signal is turned off. The setting content is the same as above.

Configuration of output

OUTLINE0

Output reverse ☒ Turn on

☒ OK
 ☐ NG
 ☐ Exception

☐ Received IN signal

Rising edge of IN0

☐ Heartbeat Timeout

Trigger Character

outline0

Output duration:

150

 ms

Reset options:

☐ OK
 ☐ NG
 ☐ Exception

☐ Received IN signal

IN0 falling edge

☐ Heartbeat Timeout

Trigger string:

outline0_rst

OUTLINE1

Output reverse ☒ Turn on

☒ OK
 ☐ NG
 ☐ Exception

☐ Received IN signal

Rising edge of IN0

☐ Heartbeat Timeout

Trigger Character

outline1

Output duration:

150

 ms

Reset options:

☐ OK
 ☐ NG
 ☐ Exception

☐ Received IN signal

IN0 falling edge

☐ Heartbeat Timeout

Trigger string:

outline1_rst

⑧ Trigger character receive timeout: The maximum time the device waits for the trigger string. If the complete trigger string is not received within this time, the system considers it a trigger failure /

communication abnormality. OUT0, OUT1, and OUT2 I/O signals can be selected.

⑨ IO_OUT trigger source: The device supports three trigger sources: TCP Client, TCP Server, and Serial.

IO_ Out trigger source

Close

Trigger Source Selection

Tcp server

IP address

192.168.1.2

Subnet mask

255.255.255.0

TCP port

15000

☐ heartbeat

Heartbeat Timeout:

2000

Heartbeat identifier:

online

IO_ Out trigger source

Close

Trigger Source Selection

Tcp client

Server IP

TCP port

5000

☐ Ping function enabled

☐ heartbeat

Sending interval (ms)

1000

Timeout (ms)

2000

Heartbeat identifier:

online

IO_ Out trigger source

Close

Trigger Source Selection

Serial

Baud rate

9600

Parity check

None

Data bit

8

Stop bit

1

5.6 Communication Configuration

- The Communication Configuration section includes TCP, serial port, and USB. It is used to select the communication protocol required for data transmission. The communication protocol is related to the device operating mode.

5.6.1 Using TCP Server Protocol

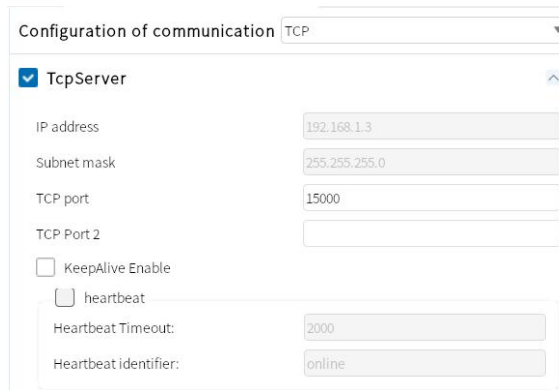
- When TCP Server is selected as the communication mode, the TCP port number can be set.

1) IP address (fixed): Current network IP address of the device.

2) Subnet mask (fixed): Network address division.

- 3) TCP port: Indicates the TCP communication port number.
- 4) TCP port 2: Indicates the backup or second communication port.
- 5) KeepAlive enable: Prevents connection disconnection caused by long periods without communication.
- 6) Heartbeat: Application-layer connection detection mechanism.
- 7) Heartbeat timeout: If no heartbeat signal is received within the set time, the system considers the connection disconnected.
- 8) Heartbeat identifier character: Indicates the heartbeat data content.

Example: The client needs to periodically send "online". After the device receives it, the connection is considered normal.



Configuration of communication TCP

☒ TcpServer

IP address: 192.168.1.3

Subnet mask: 255.255.255.0

TCP port: 15000

TCP Port 2:

☐ KeepAlive Enable

☐ heartbeat

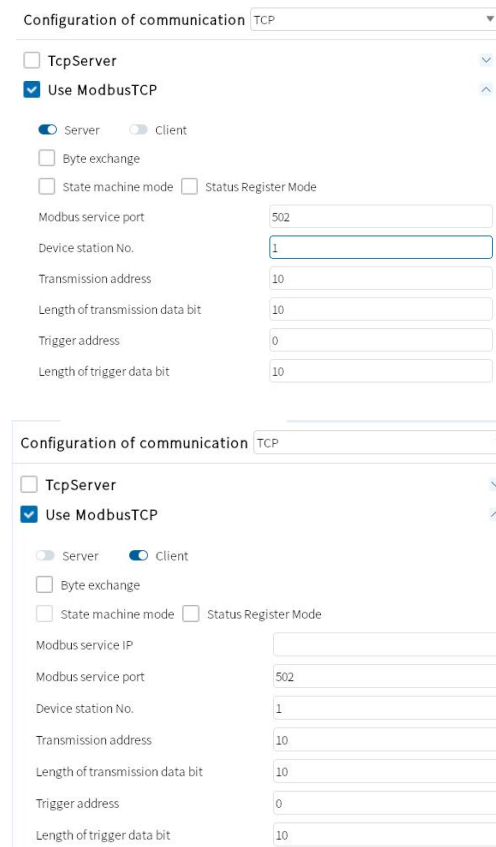
Heartbeat Timeout: 2000

Heartbeat identifier: online

5.6.2 Using Modbus TCP Protocol

- When Modbus TCP protocol is selected, Modbus service IP, Modbus service port, and other parameters must be configured.
 - 1) Modbus type: Select server or client communication mode as required.
 - 2) Byte swap: Swaps high byte and low byte. Select as required.
 - 3) Modbus service IP (appears in Client mode): IP address of the connected device.
 - 4) Modbus service port: Port number of the connected device.
 - 5) Device station number: Station number of the connected device.
 - 6) Transmission address: Address corresponding to PLC data transmission.

- 7) Transmission data bit length: Length of the data bytes.
- 8) Trigger address: Address required for the PLC to trigger the camera.
- 9) Trigger data bit length: Length of the data bits required for triggering.



The image shows two screenshots of the 'Configuration of communication' dialog box. Both screenshots have 'TCP' selected in the dropdown menu.

Top Screenshot (Server Mode):

- ☐ TcpServer
- ☒ Use ModbusTCP
- ☒ Server ☐ Client
- ☐ Byte exchange
- ☐ State machine mode ☐ Status Register Mode
- Modbus service port: 502
- Device station No.: 1
- Transmission address: 10
- Length of transmission data bit: 10
- Trigger address: 0
- Length of trigger data bit: 10

Bottom Screenshot (Client Mode):

- ☐ TcpServer
- ☒ Use ModbusTCP
- ☐ Server ☒ Client
- ☐ Byte exchange
- ☐ State machine mode ☐ Status Register Mode
- Modbus service IP: (empty)
- Modbus service port: 502
- Device station No.: 1
- Transmission address: 10
- Length of transmission data bit: 10
- Trigger address: 0
- Length of trigger data bit: 10

- The PLC controls the device and reads status through Modbus registers:

1) State machine mode (only appears in Server mode):

- ResultACK clears results: After the PLC successfully obtains the latest result, this bit is set, and the ResultsOK and ResultsNG bits are cleared.
- Control (coil/holding register): Coils are suitable for sending switch commands, such as 0/1 signals like "start/stop". Holding registers are suitable for sending numeric parameters.
- Status (holding register/discrete input/input register): Holding register: The PLC can write status values into it. Discrete input: Used specifically for read-only switch values, written directly by hardware. Input register: Read-only numeric status.
- PLC output (holding register/input register): Select a holding register or input register depending on whether the data is written one-way by the PLC (input register is stricter) or requires bidirectional interaction (holding register is more general).

Configuration of communication TCP

☐ TcpServer

☒ Use ModbusTCP

☒ Server ☐ Client

☐ Byte exchange

☒ State machine mode ☐ Status Register Mode

Modbus service port: 502

Device station No.: 1

☒ ResultAck clear result

Name	address space	Offset	Number
Control	Holding register	0	2
Status	Holding register	2	2
PLC out	Holding register	7000	2005

2) Status register mode:

- Status register address: Start address of the register storing device status.
- Status update delay: Delay time for status update. 0 means no delay and immediate update.

Configuration of communication TCP

☐ TcpServer

☒ Use ModbusTCP

☒ Server ☐ Client

☐ Byte exchange

☐ State machine mode ☒ Status Register Mode

Modbus service port: 502

Device station No.: 1

Transmission address: 10

Length of transmission data bit: 10

Trigger address: 0

Length of trigger data bit: 10

Status register address: 50

Status update delay: 0 ms

5.6.3 Using MC Protocol

- When MC protocol is selected, the communication mode used to transmit data over the network is divided into TCP and UDP.

- 1) MC service IP: IP address of the connected device.
- 2) MC service port: Communication port number for connecting to the MC server.
- 3) UDP local port number (appears when UDP is selected): Port number used to connect to the code reader.
- 4) Device station number: Station number of the connected device.
- 5) Device network number: Network number of the connected device.

- 6) Data transmission type: Two transmission data types are available: ASCII and binary.
- 7) Transmission address: Address corresponding to PLC data transmission.
- 8) Transmission data bit length: Length of the data bytes.
- 9) Trigger address type: D: The register type used is holding register. Y: The register type used is coil register.
- 10) Trigger address: Register address corresponding to the PLC triggering the code reader to start reading.
- 11) Trigger data bit length: Number of registers corresponding to receiving the trigger command.

Configuration of communication TCP

☐ TcpServer
☐ Use ModbusTCP
☒ Use MC

☒ Tcp ☐ Udp
☐ Status Register Mode

MC service IP

MC service port 502

Device station No. 0

Device network No. 0

Data transmission type ASCII

Transmission address 10

Length of transmission data bit 10

trigger addr type D

Trigger address 0

Length of trigger data bit 10

Configuration of communication TCP

☐ TcpServer
☐ Use ModbusTCP
☒ Use MC

☐ Tcp ☒ Udp
☐ Status Register Mode

MC service IP

MC service port 502

UDP local port 18100

Device station No. 0

Device network No. 0

Data transmission type ASCII

Transmission address 10

Length of transmission data bit 10

trigger addr type D

Trigger address 0

Length of trigger data bit 10

● Status register mode:

- 1) Status register address type: D: The register type used is holding register. X: The register type used is coil register.
- 2) Status register address: Start address of the register storing device status.

- 3) Status update delay: Delay time for status update. 0 means no delay and immediate update.
- 4) Delayed status clearing: Controls delayed status clearing and sets the delay time for clearing status.

Configuration of communication TCP

☐ TcpServer
☐ Use ModbusTCP
☒ Use MC

☒ Tcp ☐ UDP
☒ Status Register Mode

MC service IP:
 MC service port:
 Device station No.:
 Device network No.:
 Data transmission type: binary
 Transmission address:
 Length of transmission data bit:
 trigger addr type: D
 Trigger address:
 Length of trigger data bit:
 status reg addr type: D
 Status register address:
 Status update delay: ms
☐ Delayed clear status
 Delay Time: ms

☐ Use TCPClient

5.6.4 Using TCP Client Protocol

- When TCP Client is selected as the communication mode, server IP, TCP port number, and other parameters must be configured.
 - 1) Service IP: IP address of the connected device.
 - 2) TCP port: Port number of the connected device.
 - 3) KeepAlive enable: TCP connection keep-alive mechanism, preventing disconnection due to long periods without communication.
 - 4) Ping enable: Allows the code reader to send ping packets to test whether the PLC is online.
 - 5) Heartbeat: Used to test TCP connection status.
 - Send interval (ms): Time interval for each heartbeat identifier transmission.
 - Heartbeat timeout (ms): Maximum time to wait for a response after sending a heartbeat.
 - Heartbeat identifier character: Defines heartbeat character recognition between the code reader and the server.
 - 6) Plus sign: After adding, the code reader can connect to multiple servers.

Configuration of communication TCP

☐ TcpServer
☐ Use ModbusTCP
☐ Use MC
☒ Use TCPClient

☒ Client1

Server IP: 169.254.153.101
 TCP port: 5000
☐ KeepAlive Enable
☐ Ping function enabled
☐ heartbeat
 Sending interval (ms): 1000
 Heartbeat timeout (ms): 2000
 Heartbeat identifier: online

+

☐ Use EtherNet/IP
☐ Use Profinet
☐ Use Fins
☐ Use UDP
☐ Use FTP
☐ Use HTTP

Communication interaction customization

5.6.5 Using EtherNet/IP Protocol

- Use state machine mode: Not selected: The device can be externally triggered and the PLC can directly receive reading data. Selected: Triggering and reading can only be controlled through signals, and other external trigger methods cannot be used for this function.
 - 1) Result byte-order reversal: When unchecked by default, the result area follows endian ordering.
 - 2) End task immediately when Trigger returns to zero: Controls the end of reading. Selected: The reading task ends immediately when Trigger returns to zero. Not selected: The reading task does not end immediately when Trigger returns to zero; it ends only after completion according to the task time or other settings in trigger configuration.
 - 3) ResultAck clears results: After the PLC successfully obtains the latest result, this bit is set, and ResultsOK and ResultsNG are cleared.
 - 4) Input assembly size: Sets the byte size of the input assembly.
 - 5) Output assembly size: Sets the byte size of the output assembly.
 - 6) Network link bit: Used by the PLC to determine whether the scanner EIP function is normal. Time can be set, and it alternates 0-1-0-1.

Configuration of communication TCP

- ☐ TcpServer
- ☐ Use ModbusTCP
- ☐ Use MC
- ☐ Use TCPClient
- ☒ Use EtherNet/IP
 - ☒ Use state machine mode
 - ☐ Result high low reverse order
 - ☐ terminate task when trigger bit turn 0
 - ☒ ResultAck clear result
 - Input component size: 200 byte
 - Output component size: 200 byte
 - ☐ Network connection bit
 - Time: 500 ms
- ☐ Use Profinet
- ☐ Use Fins
- ☐ Use UDP
- ☐ Use FTP
- ☐ Use HTTP

Communication interaction customization

Add customization: +

5.6.6 Using Profinet Protocol

- Use state machine mode: When selected, the code reader must be triggered according to the timing logic diagram. When not selected, other external trigger methods can be used to directly feed back results and reading status to the PLC.
- End task immediately when Trigger returns to zero: Controls the end of reading. Selected: The reading task ends immediately when Trigger returns to zero. Not selected: The reading task does not end immediately when Trigger returns to zero; it ends only after completion according to the task time or other settings in trigger configuration.
- ResultAck clears results: After the PLC successfully obtains the latest result, this bit is set, and ResultsOK and ResultsNG are cleared.
- Profinet device name: Sets the name of the connected device.
- Output result module size: Selects the specified byte size for storing reading results. Default is 64 bytes.

Configuration of communication TCP

☐ TcpServer
☐ Use ModbusTCP
☐ Use MC
☐ Use TCPClient
☐ Use EtherNet/IP
☒ Use Profinet

☒ Use state machine mode
☐ terminate task when trigger bit turn 0
☒ ResultAck clear result

Profinet name

Output result module size byte

☐ Use Fins
☐ Use UDP
☐ Use FTP
☐ Use HTTP

Communication interaction customization

Add customization:

5.6.7 Using FINS Protocol

- End task immediately when Trigger returns to zero: Controls the end of reading. Selected: The reading task ends immediately when Trigger returns to zero. Not selected: The reading task does not end immediately when Trigger returns to zero; it ends only after completion according to the task time or other settings in trigger configuration.
- Protocol type: Select TCP or UDP protocol.
- PLC IP: IP address of the connected device.
- Port number: Port number of the connected device.
- Node address: Connection address of the connected device.
- DM start address: DM start address of the connected device.
- DM area length: DM area length of the connected device.
- Control-area result space: Data area type used by the PLC to store reading results, divided into DM and CIO.
- Control area start address: Control area start address of the connected device.
- Data area start address: Data area start address of the connected device.
- Status update delay: Sets the time interval for the device to update status data to the PLC register.
- Continuous decoding: Controls whether the device continuously performs barcode recognition after triggering and sets the continuous reading interval.

Configuration of communication TCP

☐ Use Profinet

☒ Use Fins

☐ terminate task when trigger bit turn 0

Protocol TCP

PLC IP

Port Number 9600

Node Address 2

DM Start Address 1000

DM area length (words) 500

Control Area Result Space DM

Starting address of control area 100

Starting address of status area 110

Status update delay 0 ms

☐ Continued decoding interval 1000 ms

☐ Use UDP

☐ Use FTP

☐ Use HTTP

Communication interaction customization

Add customization: +

5.6.8 Using UDP Protocol

- Host IP: IP address of the UDP server.
- Host communication port: Port number opened by the UDP server.
- Scanner communication port: Port number used by the code reader for communication.

Configuration of communication TCP

☐ TcpServer

☐ Use ModbusTCP

☐ Use MC

☐ Use TCPClient

☐ Use EtherNet/IP

☐ Use Profinet

☐ Use Fins

☒ Use UDP

host ip

host port 0

device port 18000

☐ Use FTP

☐ Use HTTP

Communication interaction customization

Add customization: +

5.6.9 Using FTP Protocol

- Target IP: IP address of the FTP server, used for device communication connection.
- Target port: Communication port number of the FTP server.
- User name: Specify the user (optional)
- Password: User password (optional)
- Timeout: Time after which the FTP connection automatically disconnects if there is no communication (0-999999 ms).
- Image format: Image formats to upload: PNG and JPG.
- Image transmission mode: Single-image transmission mode transmits only the last image of the task.

Multi-image transmission mode transmits all images in the task.

- Upload image type: Image types to upload: ALL, OK, NG.
- Specified directory: Specify the name of the directory to be created (optional)
- File prefix: Specify the prefix of the saved image name (optional)

Configuration of communication TCP

☐ Use UDP

☒ Use FTP

Target IP

Target Port 21

Username

Password

timeout 5000 ms

Image Format PNG

Image transmission method Single image transmission mode

Upload Image Type ALL

Specify directory

File prefix

☐ Use HTTP

Communication interaction customization

Add customization: +

5.6.10 Using HTTP Protocol

- URL: Server interface address used to receive data uploaded by the device.
- Timeout: Used to set the waiting time for HTTP requests.
- Data type: Includes default data and custom data.
- Image upload: Uploaded image formats: PNG and JPG. Uploaded image types: ALL, OK, NG. Specify the prefix of the saved image name (optional).

Configuration of communication TCP

☐ Use Ethernet/IP

☐ Use Profinet

☐ Use Fins

☐ Use UDP

☐ Use FTP

☒ Use HTTP

URL

timeout 5000

data type Default Data

☐ image upload

Image Format PNG

Upload Image Type ALL

File prefix

Communication interaction customization

Add customization: +

5.6.11 Custom Communication Interaction

- Both Ethernet and serial protocols support custom data interaction, used for data interaction between the code reader and the lower-level device.

Configuration of communication

TCP

☐ TcpServer

▼

☐ Use ModbusTCP

▼

☐ Use MC

▼

☐ Use TCPClient

▼

☐ Use EtherNet/IP

▼

☐ Use Profinet

▼

☐ Use Fins

▼

☐ Use UDP

▼

☐ Use FTP

▼

☐ Use HTTP

▼

Communication interaction customization

▲

Add customization:

+

5.6.12 Serial Port

- Enable serial device discovery: The device can automatically search for and discover connectable devices through the serial port, facilitating serial communication connection.
- Escape special characters (serial to HID): Sets whether special characters are escaped when serial data is converted to HID.
- Use English punctuation under Chinese input method (serial to HID): In HID keyboard output mode, punctuation marks are still output in English punctuation format.
- Unicode output (serial to HID): In HID keyboard output mode, the device outputs characters in Unicode encoding.
- When Serial is selected as the communication protocol, the following parameters can be set:
 - 1) Serial baud rate: Sets the serial baud rate of the receiving end.
 - 2) Serial parity: Sets the serial parity bit of the receiving end.
 - 3) Serial data bits: Sets the serial data bits of the receiving end.
 - 4) Serial stop bit: Sets the serial stop bit of the receiving end.
- Delayed output: Used to control the character delay count during serial transmission.
 - 1) Characters per transmission: Sets the number of characters sent each time data is transmitted.
 - 2) Character interval (0-2000 ms): Sets the time interval between continuously sent characters.
 - 3) Task interval (0-2000 ms): Sets the time interval between two data transmission tasks.
- Add custom: Users can set custom input and output according to actual needs.

Configuration of communication Serial port

☒ **Serial port**

☐ Enable serial port discovery device

search COM

☐ Escape special characters (UART to HID)

☐ The subscript symbol for Chinese input method is English (serial port to HID)

☐ Unicode output (serial port to HID)

Baud rate 9600

Parity check None

Data bit 8

Stop bit 1

☐ Delayed output

Number of characters sent per time 20

Character spacing (0-1000ms) {0-2000m?} 100

Task interval (0-1000ms) {0-2000m?} 0

Add Customization: +

☐ Use ModBusRTU

5.6.13 Using Modbus RTU Protocol

- When Modbus RTU protocol is selected, the device station number and other parameters must be configured.
 - 1) Device station number: Station number of the connected device.
 - 2) Transmission address: Address corresponding to PLC data transmission.
 - 3) Transmission data bit length: Length of the data bytes.
 - 4) Trigger address: Address required for the PLC to trigger the camera.
 - 5) Trigger data bit length: Length of the data bits required for triggering.

Configuration of communication Serial port

☒ **Serial port**

☐ Enable serial port discovery device

search COM

☐ Escape special characters (UART to HID)

☐ The subscript symbol for Chinese input method is English (serial port to HID)

☐ Unicode output (serial port to HID)

Baud rate: 9600

Parity check: None

Data bit: 8

Stop bit: 1

☐ Delayed output

Number of characters sent per time: 20

Character spacing (0-1000ms) (0-2000m?): 100

Task interval (0-1000ms) (0-2000m?): 0

Add Customization: +

☒ **Use ModBusRTU**

☒ Server ☐ Client

☐ Byte exchange

Device station No.: 2

Transmission address: 10

Length of transmission data bit: 10

Trigger address: 0

Length of trigger data bit: 10

5.6.14 USB

- The USB communication configuration interface of the code reader contains two modules: USB serial port (virtual serial port mode) and USB cursor output (keyboard emulation mode).
- USB serial port parameters:
 - (1) Baud rate: Sets the serial baud rate of the receiving end.
 - (2) Parity: Sets the serial parity bit of the receiving end.
 - (3) Data bits: Sets the serial data bits of the receiving end.
 - (4) Stop bit: Sets the serial stop bit of the receiving end.
- USB Cursor Output Parameters
 - (1) Ignore Caps Lock: When selected, USB outputs the barcode content itself and is not affected by Caps Lock.
 - (2) Character inversion: When selected, uppercase is converted to lowercase and lowercase to uppercase during character output.
 - (3) Case conversion: When uppercase is selected, all characters are output as uppercase. When lowercase is selected, all characters are output as lowercase.
 - (4) Ignore Chinese input method: When selected, output is not affected under a Chinese input method.

- (5) Use English punctuation under Chinese input method: Automatically converts Chinese punctuation in the output content to English punctuation.
- (6) Unicode output: Outputs characters in Unicode encoding.
- (7) GBK output: Outputs Chinese characters in GBK encoding.
- (8) Characters per transmission: Used to set the number of characters sent as a whole. Maximum value is 1.
- (9) Character interval (0-2000 ms): Sets the interval between characters.
- (10) Task interval (0-2000 ms): Sets the interval between tasks.
- (11) USB version switching: Used to switch between versions 1.1 and 2.0.
- (12) Interval: Controls transmission scheduling.

Configuration of communication

USB

☐ USB serial port

Search COM

Baud rate

115200

Parity check

None

Data bit

8

Stop bit

1

Add Customization:

+

☒ USB cursor output

☒ Ignore Capslock
 ☐ Character inversion

☐ toggle case

capitalization

small letter

☐ Ignore Chinese input method
 ☐ The subscript symbols in Chinese input method are in English
 ☐ Unicode output
 ☐ GBK output

Number of characters sent per time

1

Character spacing (0-100 ms) {0-2000ms}

0

Bar code interval (0-100 ms) {0-2000ms}

0

USB version switching

USB2.0

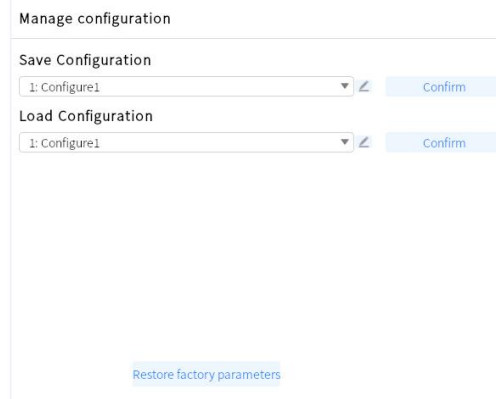
interval

4

5.7 Configuration Management

- Configuration management can save, load, restore default, and save configuration functions for the current device parameters.

- 1) Save settings: Saves current parameters to a parameter group. User configurations 1-10 can be selected.
- 2) Load settings: Select configuration 1-10 in real time to load parameters.
- 3) Restore factory configuration: When clicked, device parameters are restored to factory settings.



Manage configuration

Save Configuration

1: Configure1 Confirm

Load Configuration

1: Configure1 Confirm

[Restore factory parameters](#)

5.8 Settings

5.8.1 Device Settings

- Device name: You can modify the code reader device name. Chinese, English, letters, characters, numbers, etc. are supported.
- Whether continuous/software trigger results are sent externally: When enabled, the code reader transmits results externally in continuous mode or software trigger status.
- Missed trigger statistics: When enabled, missed triggers are counted in statistics mode.
- Simultaneous monitoring of external trigger sources: The device can monitor multiple external trigger signal sources simultaneously to improve trigger compatibility.
- Device discovery method when USB is connected: Includes three methods: disable device discovery, virtual network card, and virtual serial port.
- Debug LOG information: Enables or disables debug log output.
- Automatically save historical result summary data: The system automatically saves the historical reading result statistics of the device.
- Algorithm calculation switch: Enables or disables code reading algorithm calculation.

Name of device	VS2000-2022-026
Is the networking host sending out connection status	No
send out continuous/software	Yes
Missing trigger statistics	Close
Simultaneous monitoring of external trigger sources	Close
Automatic connection (currently valid on PC)	Close
Debugging Log Information	Close
Automatically save historical result summary data	Open
Algorithm calculation switch	Open
Camera TimeOut processing settings	
Multi code enable allows different positions to have the same code	Close
Continuous mode results not statistics	Open
Pixel difference	200
Does repeated filtering output filtered results	
Maximum frame rate for operation	100

- **Barcode Command Settings**

- 1) Return value: Enables or disables data returned after the device executes barcode commands.
- 2) All-mode setting: Uniformly sets parameters related to barcode recognition.

- **Buzzer Settings**

- 1) Decoding sound: Can be disabled, enabled after successful decoding, or enabled after successful/failed decoding.
- 2) Sound duration: Sound can be set to three types: 40 ms, 80 ms, and 120 ms.
- 3) Buzzer duration: Four types are available: short, medium, long, and custom.
- 4) Buzzer frequency: Four types are available: short, medium, long, and custom.

- **Button Settings**

- 1) Trigger button: On/Off.
- 2) Function button: On/Off.
- 3) Positioning light: On/Off.
- 4) Reading status indicator: On/Off.
- 5) Keep light on without trigger: On/Off.

- **Image Transfer Settings**

- 1) Image transfer type: Allows selection of PNG/JPG/center/ROI image cropping.
- 2) NG image transfer number: Sets the number or rule for uploading images when recognition fails

(NG).

3) Reduce image transfer frequency: Reduces image upload frequency to reduce network bandwidth usage.

- SDK Communication Settings

1) SDK communication: Close/Turn on.

2) Web debugging SDK: Close/Turn on.

- Rendering Settings

1) Scan result rendering: Sets the rendered text displayed for reading results. Options include follow, not follow, and off.

2) Positioning box rendering: Sets whether to display the barcode positioning box in the image.

3) Actual result output: Sets the final recognition result content or format output by the device to an external system.

Name of device	VS600P
send out continuous/software	Yes
Missing trigger statistics	Close
Simultaneous monitoring of external trigger sources	Close
Device discovery method during USB connection	Virtual network card
Debugging Log Information	Close
Automatically save historical result summary data	Close
Algorithm calculation switch	Open
Barcode instruction settings	
return value	Close
Full mode setting	Turn on
Buzzer setting	
Buzzer type	Passive buzzer
Decoding sound	Decoding opened successfully
Buzzer duration	centre 80
Power on prompt sound	Turn on
Buzzer frequency	centre 2730
Button setting	
Positioning lamp	Open
Reading status indicator light	Open
Map transfer settings	
Image Type	jpg compression image
NG upload image number	
SDK communication settings	
SDK communication	Close
Web Debugging SDK	Close
Render settings	
Scanning result rendering	follow
Positioning box rendering	Close
Actual result output	☐ Close

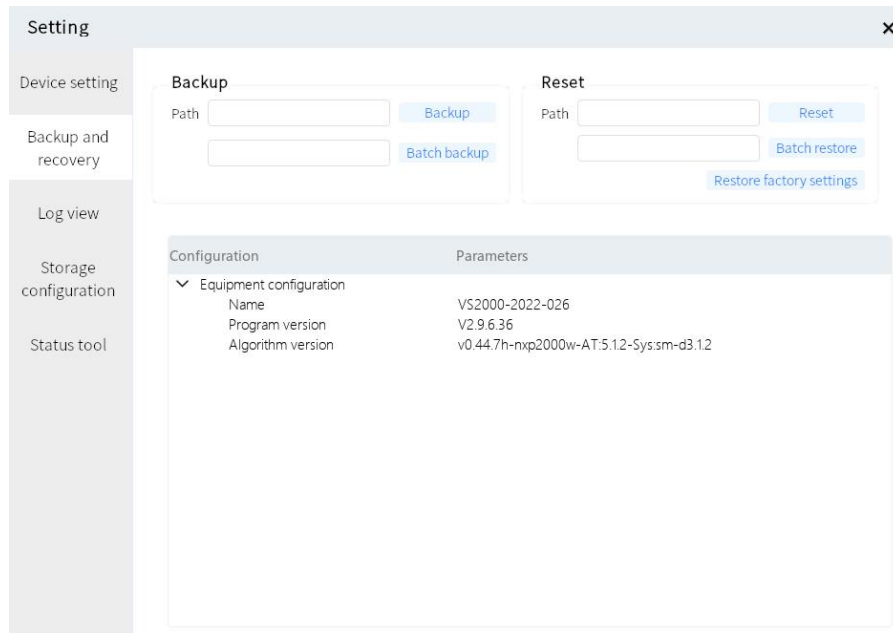
[Sync time to device](#)
☒ Automatically synchronize when connected

[reboot device](#)

[Save current setting](#)

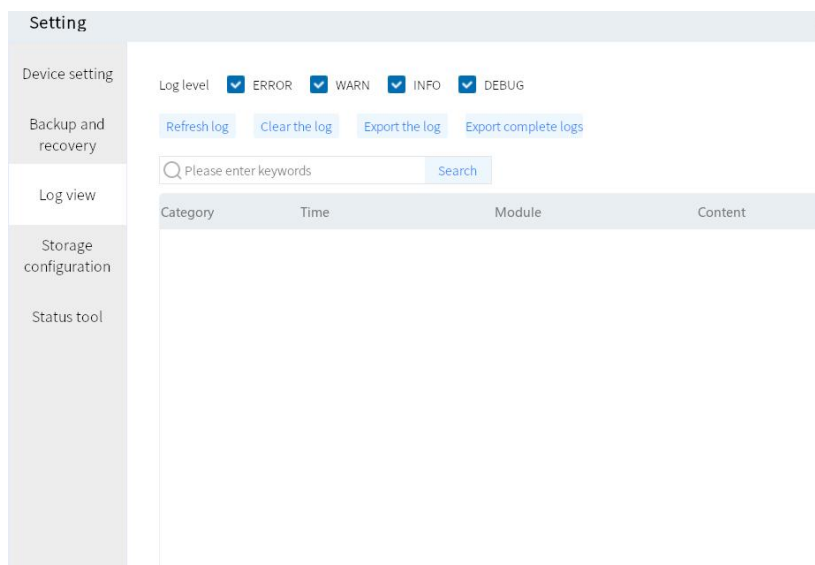
5.8.2 Backup and Restore

- The code reader can back up settings and other information to the PC, restore settings, and restore factory settings.



5.8.3 Log Viewing

- You can view log levels such as ERROR, WARN, INFO, and DEBUG.
- You can refresh logs, clear logs, export logs, and export full logs.



5.8.4 Storage Configuration

- PC save configuration:
 - 1) Code reader save configuration. You can enable/disable Data Record, Display Original Image, Decoded Image, and Undecoded Image.
 - 2) Save method: continuous saving, saving by day, and saving by task.

- 3) Data filtering: Custom filtering rules such as Time, OK/NG, Task Name, and Barcode Type can be selected.
- 4) Save type: Original Image, Preprocessed Image, and Result Rendered Image.
- 5) The storage path and prefix for decoded/undecoded images can be customized. Image naming methods include naming by content and naming by time.

Save configuration on the upper computer

Save configuration on PC

Hard disk alarm GB

Data record ☐

Path

File name

Save as

Data filtering

Show original image ☐

Save Type ☐ Raw image ☒ Preprocessing diagram ☐ Result rendering

☐ Save images by day

Decode image ☐

Path

Prefix

Undecoded image ☐

Path

Prefix

Naming convention for images

● image capture configuration

- 1) Image capture configuration. The image capture path can be saved.
- 2) image capture time:1s~60min.
- 3) Capture quantity: 2-10000 images.

Configuration for capturing images

Path

Settings of continuously capturing images

Time for capturing images ☐

Number of captured images ☐

5.8.5 Status Tools

Setting
 ×

Device setting

Backup and recovery

Log view

Storage configuration

Status tool

I/O status
 Refresh
recount

IN0 IN1

OUT0 OUT1 OUT2

communication status
 Ethernet/IP
Refresh

Input image area

Byte	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
0-1	Reserved							
2	network Alive				Decoding	Acquiring	Trigger ack	Trigger ready
3	General Fault						Results NG	Results OK
4-17	Reserved							
18-19	Result Length :							
20-max	Result data :							

Output image area

Byte	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
0						Result Ack	Trigger	Trigger Enable
1	Clear Error	Clear Result						
2-max	Reserved							

- I/O status: Used to view and count output and output signal status. It supports refresh and recount functions.
- Communication status: Used to view the status bits of output/input registers under industrial communication protocols. Currently supports Ethernet/IP, Profinet, and Modbus TCP protocols.
 - 1) EtherNet/IP:
 - The definition of the input image area (code reader -> PLC controller) is shown in the table below.

Name	Description
Trigger Ready	The device is ready to receive a new trigger signal. When Trigger Enable is set and the device is ready to receive the next trigger signal, this bit is set.
Trigger Ack	The device has successfully received the trigger signal.
Acquiring	The device is acquiring an image.
Decoding	The device is recognizing and decoding the image and processing it with the algorithm.
Reserved	reserved
Results OK	The device successfully outputs a new result. When the PLC sets Results Ack, this bit is cleared.
Results NG	The device did not read a code or did not obtain an output result. When the PLC sets Results Ack, this bit is cleared. Note: When using the NG signal, disable the NoRead function.

General Fault	An internal device error occurred. This signal can be cleared through ClearError.
Result Length	Length of valid data in the result area, i.e., the number of characters in result data.
Result Data	Device reading result. Reading results are stored continuously in ASCII format. ● If the result data length is smaller than the configured Result Module size, the remaining data is padded with 0. ● If the result data length is greater than the configured Result Module size, excess data is truncated.

- The definition of the output image area (PLC controller -> code reader) is shown in the table below.

Name	Description
Trigger Enable	The PLC controls the device trigger enable function through this bit.
Trigger	When the following conditions are met, the PLC sets this bit to trigger the device to acquire one image and run the algorithm once. ● Trigger Enable is set. ● The device is not currently acquiring an image or running the algorithm. ● Trigger Ready is set.
Results Ack	After the PLC successfully obtains the latest result, this bit is set, and Results OK and Results NG are cleared.
Reserved	reserved
Clear Error	Clear error status

2) Modbus TCP

- Control bit: Signal written by the PLC to control code reader operation.
- Status bit: Operating status information returned by the code reader to the PLC.
- Result area: used to return barcode recognition data.

Setting

Device setting

Backup and recovery

Log view

Storage configuration

Status tool

I/O status

Refresh

recount

IN0 IN1
 OUT0 OUT1 OUT2

communication status

ModbusTcP

Refresh

control bit

Byte	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
0					Result Ack		Trigger	Trigger Enable
1	Clear Error	Clear Result						

status bit

Byte	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
0						Acquiring	Trigger ack	Trigger ready
1	General Fault		Results NG	Results OK	Result Avail		Decoding Cmplt	Decoding

result

Byte	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
0-3	Reserved							
4	Result Length :							
2-max (5-7)	Result data :							

3) PROFINET

- **Control Module:** The control module corresponds to Q addresses (PLC output), namely the control signals written by the PLC to the code reader.
- **Status Module:** The status module corresponds to I addresses (PLC input), indicating status information returned by the code reader to the PLC.
- **Result Module:** The result module is used to transmit barcode recognition result data.

Setting

Device setting

Backup and recovery

Log view

Storage configuration

Status tool

I/O status

Refresh

recount

IN0 IN1
 OUT0 OUT1 OUT2

communication status

Profinet

Refresh

Control Module

	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
Q address	Clear Error					Result Ack	Trigger	Trigger Enable

Status Module

	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
I address	General Fault		Results NG	Results OK	Decoding	Acquiring	Trigger ack	Trigger ready

Result Module

Byte	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
I address(64byte)	Result data :							

6. FAQ List

6.1 The client software has detected the device, but it displays "Unreachable"

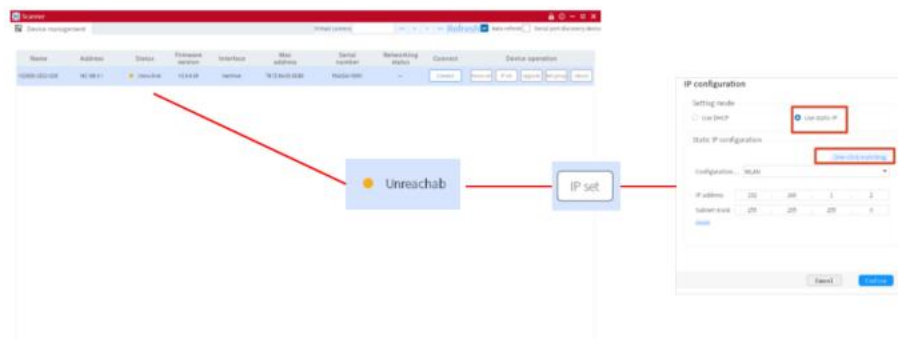
- **Possible cause:**

1) The device IP and the network adapter connected to the device are not in the same network segment.

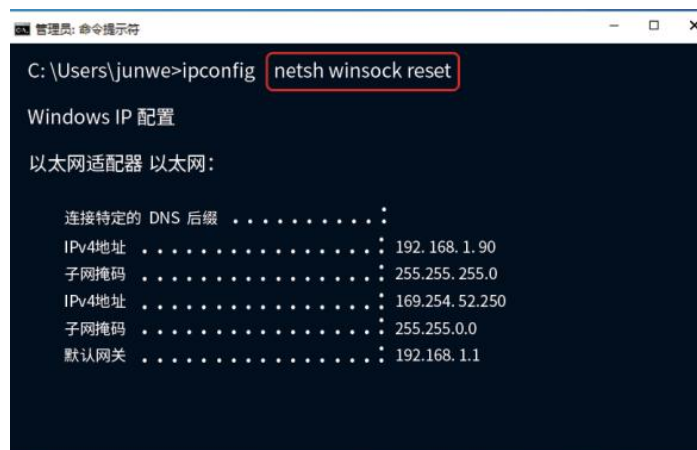
2) The network adapter has obtained IP addresses from two different segments.

- **Solution:**

1) Modify the device IP so that the computer and the device are in the same network segment.



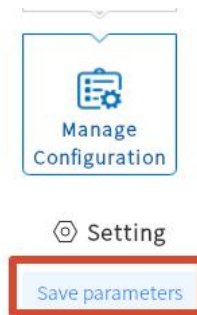
2) Click Start on the computer, enter "cmd" in the search box, right-click and run as administrator, then enter: netsh winsock reset. After resetting the network adapter information, restart the computer.



6.2 After debugging mode is set in the client, the setting is not saved

- **Possible cause:** The system has temporarily stored the setting parameters. After configuration is complete, all settings must be manually saved.

- **Solution: Click Configuration Management > Save All Configurations.**
- **The specific operation is as follows:**



6.3 How to use various trigger modes in the client software

- **Solution:**
 - 1) Network trigger: First verify it with third-party software. Set the code reader to network trigger in the software, and configure the same port, the same trigger command, and the same network IP segment. Some routers may enable IP isolation and need to be disabled.
 - 2) I/O trigger: Connect the I/O trigger signal wire. Set the code reader to I/O trigger in the software. The wiring must match the configured LINE0/1, and the trigger command must be the same. There are two wiring methods: NPN and PNP. General wiring: connect IN0/IN1 to the OUT wire of the triggering device, and connect IN_COM to positive (NPN) or negative (PNP). See Section 3.2 for details.
 - 3) Serial trigger: Connect the DB9 terminal. Set the correct COM port in the software, with the same baud rate, data bits, stop bit, parity bit, and trigger command.
 - 4) Network trigger: The client software and the code reader must be connected to the same network segment.

6.4 network trigger not successful

- **Possible cause: Currently, the device side supports only client mode.**
- **Solution: Adjust the network trigger mode of the PLC device.**