

# Intelligent Code Reader RCD-AI100-X Series User Manual



V1.0

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# **Chapter 1: Product Introduction**

#### **1.1 product description**

This manual is applicable to the Meiji intelligent code reader RCD-AI100-X series, which can be applied to 3C, pharmaceutical food, electronic semiconductor, auto parts and other industries.The device uses sensors and optical

### **1.2 Main features**

- Built-in deep learning algorithm, which can quickly locate the bar code and decoding
- Mechanical zoom lens, support remote and wide field reading
- Provide red / white two-color light sources, 4 groups of independent control light sources, and support polarized light sources to cope with complex scenes
- Support for ultra-small code reading, to meet the reading requirements of different distances
- Provide a rich IO interface to access multiple input and output signals
- IP67 protection, fearless of harsh industrial application environment



# 1.3 Appearance

# A .Appearance instructions



NO.	Name	Description
1	Imaging sensor	For collect images
2	Light source	Built-in red / white light source
3	Positioning lamp	Indicates image center position
4	Screw holes	Code reader mounting holes
5	TRIG key	Trigger the button
6	TUNE key	Automatic reference button
7	Status indicator	Indicator light panel
8	12 Pin interface	M12-12 Pin interface



|--|

#### **B** Status indicator light description



NO.	Name	Description
1	TRIG key	Trigger the button
2	TUNE key	Trigger the button
3	Power light	The green light is on for normal
		operation
4	Configuration	The trigger button successfully
	indicator	triggers the green light
5	OK/NG indicator	Read code success green light, read
		code failure red light
6	Network indicator	Normal green light, data transmission
		strobe light
7	Error indicator	By default, the device is not on

#### 1.4 Interface & bulk line definition

The equipment interface is M12-12 PIN and M12-8 PIN connector, and the specific pin signal definition is shown in the following figure. When wiring the equipment, please connect according to the pin number in the table and the color on the cable label.

M12-12 PIN pin	1	yellow	OUT2
	2	Green belt yellow	RS232_TxD
		edge	
	3	brown	RS232_RxD
	4	pink	RS232_GND
	5	purple	IN1
	6	white	IN_COM
	7	red	VIN_24V
	8	black	DGND
	9	green	OUT_COM
	10	orange	IN0
	11	blue	OUT0
	12	gray	OUT1

M12-8PIN pin	1	Orange white
	2	Orange
	3	Green white
	4	Green
	5	Blue and white
	6	Blue
	7	Brown white
	8	Brown

### **1.5 Accessories and dimensions**

#### A list

For the normal use of the equipment, please prepare the supporting items shown in the following table before installation.

Name	Description	picture
M12-12 PIN Interface line	M12 male head, RS232 communication interface, power interface, IO port, 3 m	
M12-8 PIN Interface line	M12 head, RJ45 network cable, 3 m	
source	The 24V power supply adapter	
Install accessories	L-shaped mounting bracket + screws	

#### **B** Appearance



# **Chapter 2 Equipment Installation and Operation**

#### 2.1 Equipment installation

1. Install the equipment to the fixing bracket and then to other mechanism parts through

the fixing bracket.



2. Connect the M12-12 PIN interface line, please access and lock the screw in the correct

way.



3. Connect the M12-8 PIN interface line, please access and lock the screw in the correct

way.



4. Installation height range: 100mm-1000mm, installation tilt 10-15 degrees, to avoid

light spots and reflection.



#### The focal length was 8mm



#### The focal length was 12mm

#### 2.2 Power supply connection

1000mm

There are two power supply methods: support 24VDC direct connection or 220VAC with adapter connection, maximum 3A.

H240mm

V150mm

#### A for an external direct supply of 24V



#### B External direct supply of 220V

Power power with an adapter.



#### **2.3 Communication connection**

#### A RS232 Serial port

The default port rate is 9600, check bit: NULL, data bit: 8, stop bit: 1, can be changed according to the actual situation.



#### **B** Ethernet

The default IP address is 192.168.0.100 and the received data port is 15000 and can be changed according to the actual situation.



# **Chapter 3 IO Electrical Characteristics and Wiring**

#### 3.1 I / O electrical characteristics

The Line In 0 / 1 in the device I / O signal is the optical coupling isolation input, and the Line Out 0 / 1 / 2 is the optical coupling isolation output.

#### 3.1.1 Input electrical characteristics

The parameter name	Parameter symbol	parameter values
Enter the logic to the low level	VOL	8V
Enter the logic high level	VOH	12V
Input drops along the delay	TDF	1.3µs
Input rise edge delay	TDR	35µs

Description \*: The input logic is low or logic high, which is the threshold of the voltage representing the input. Input up or down delay is the representative performance.

The parameter name	Parameter symbol	parameter values
Output logic is at a low level	VOL	0.7V
Output logic is at a high level	VOH	23.9V
Output drops along the delay	TDF	7.5µs
Output rises along the delay	TDR	141µs
Output drop time	TF	12.6µs
Output up time	TR	157.8µs

#### 3.1.2 Output electrical characteristics

### 3.1.3 Input the internal wiring diagram

### • incoming signal

In 0 / 1 in the device I / O signal is a photo coupled isolated input with an input voltage ranging from 8 to 24 VDC.



Equipment input circuit diagram

• The input logic level is:





#### 3.1.4 Input the internal wiring diagram

#### • output signal

The Lineout0 / 1 / 2 in the device I / O signal is the optical coupling isolation output. The

output voltage range is from 5 to 40 V.





#### • The output logic level is:





#### 3.2 IO external wiring

The device may receive the external input signal or the output signal to the external device through the I / O interface. This section mainly introduces how to connect the I / O part. The signal input in the wiring diagram takes LineIn 0 as an example, and the signal output

takes LineOut 0 as an example. Other interfaces can be similar according to the cable definition in the wiring diagram and combined with the interface introduction.

#### 3.2.1 Input the external wiring diagram

Different types of equipment, equipment input wiring is different.

• The input signal is the NPN



• The input signal is the PNP



#### 3.2.2 Output the external wiring diagram

Different types of equipment have different output wiring of the equipment.

#### External equipment is NPN, type equipment



explain \*:

 The voltage value of the VCC of the equipment shall not be higher than the voltage value of the reader PWR, otherwise the output signal of the equipment will be abnormal.
 The output load current shall meet the product specifications (serial flow resistance if necessary).

#### 3.3 RS-232 serial port

The device supports the RS-232 serial port output.

#### 3.3.1 RS-232 serial port

The common oral definition of the 9-pin header 232 serial port connector string is shown in the figure below.



9-The pin male header connector

PIN NO.	IMPLICATIONS	FUNCTIONAL DESCRIPTION
2	RX	RECEIVE DATA
3	ТХ	SEND DATA
5	GND	SIGNAL GROUND

9-pin header 232 serial port definition

Note \*: The voltage value of VCC shall not be higher than that of PWR, otherwise the

output signal of the equipment will be abnormal.

# **Chapter 4 Client operation**

#### **4.1 Software Connection**

Double-click on the icon to open the software;

- The intelligent code reader and the PC of the configuration software need to be connected in the same network segment;
- Default IP address: 169.254.153.0; Gateway 255.255.0.0;
- You can use the DHCP and use the static IP address form to make the connection successful.

Use DHCP			00	se sta	tic IP		
Static IP config	uration						
					One	-click	matching
Configuration	以太网						
IP address	192		168		1	4	34
Subnet mask	255	i.	255	3	255	Sk.	0
more Default gateway	0	Ϋ́.	0	a.	0		0
DNE Server	114		114		114		114

#### IP configuration

#### **4.2 PC network configuration**

#### 4.2.1 Change the IP address of the PC

The operation steps are as follows: 1) Take Windows10 as an example, open "Start menu"> "Settings"> "Network and Internet"> "Ethernet"> "More Adapter option"> "Ethernet 3"> Right click "Properties"> "Network"> "Internet Protocol v 4 (TCP / IPv4); the IP address of the corresponding PC card is 169.254.153.16; Subnet mask: 255.255.0.0.



0 <b>2</b>		- 0 ×
主页	以太网	
16歳萬 の		相关设置
和 Internet		更改高级共学设置
tta	■ Rinka × × × ×	网络和共享中心
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20	NG - MALTREGE GEROARS BELIEVAS	
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	3 小学園 田崎         第三日の 留田町)         第三日の 留田町)         第三日の 留田町)         第三日の 留田町)           第三日の 留田町)         第三日の 留田町)         第三日の 留田町)         第三日の 留田町)	
	●検証状的なパルポットである。またの支援により、小学校を行うの、月 子を不同時間にあまずがあままます。 こまた、日本のなどの支援により、「「「「「」」」、「」」、「」」、「」」、「」」、「」」、「」、「」、「」、「	
	1012 RTA 874	

2) Open the configuration software, select the corresponding product and click the

connection to complete.

-	MJ AiScanner									() – □ ×
	Device mar	agement								
1										
1	Name	Address	Status	Firmware version	Interface	Mac address	Serial number	Networking status	Connect	Device operation
	Scanner	192.168.1.88	• Idle	v2.3.1.6	Network	46:17:8C:50:F6:50			Connect	IP setting Firmware vertication Networking configuration

#### 4.2.2 Change the IP address of the reader

The operation steps are as follows: open the configuration software, select the corresponding PC network card, display to the code reader, click IP Settings> Use static IP> One-key Match> confirmation, change the IP address to the same network segment IP



#### as the PC.

MJAIScanner											() — 🗆
Device manage	ement										
Name	Address	Status	Firmware	Interface	Mac	Serial	r	Networking	Connect	ſ	evice operation
Scanner	192.168.1.88	• Idle	v2.3.1.6	Network	46:17:8C:50:F6:50				Connect	IP setting	Firmware Networking
					IP	configuratio	n				
						Setting mode					
						Use DHCP		O Use	static IP		
						Static IP configu	uration		Ope-cli	ck matching	
						Configuration	以太网				
						IP address	192	. 168	. 1 .	34	
						Subnet mask	255	. 255	. 255 .	0	
						more					
						DNE Server	0	. 0	. 0 .	114	
						Dive Screet	114		. 114 .	114	
								C	Cancel	Confirm	

# 4.3 Firmware upgrade

The steps are as follows: Device Management> Device Operation> Firmware upgrade, select the firmware file, and then click OK for the firmware update. Wait for the restart to complete.



#### 🥶 MJ AiScanner B Device management Serial number Mac address Networking status Firmware version Name Address Status Interface Connect 192.168.1.88 v2.3.1.6 46:17:8C:50:F6:50 Scanner • Idle Connect onfigurati 😸 Please select the firmware upgrade file × ◇ 个 <sup>1</sup> △ 本地磁盘 (D:) > 机器视觉 > 算法平台 > C 在算法平台中搜索 $\leftarrow$ م $\rightarrow$ V = - 🔲 🙆 组织▼ 新建文件夹 🚞 孟祥宇—拾美工 名称 修改日期 类型 大小 AkusForMindV EasyID 2023/4/13 9:44 应用程序 95,3 늘 机器视觉 EIPPN-OTA-S-V2.3.0.1-T4-V0.25.11A... 72.6 2023/5/10 13:46 GTA 文件 💼 培训资料 EIPPN-OTA-X-V2.3.0.1-T4-V0.25.11A... 2023/5/10 13:47 GTA 文件 125,6 J MJ AiScanner-2.0.6.8(1) 2023/2/9 11:24 360压缩 ZIP 文件 200,2' > OWPS云盘 MJ AiScanner-2.0.6.8E 2023/3/10 17:40 360 压缩 ZIP 文件 200.2 ~ 🖵 此电脑 MJ AiScanner-3.1.0.1 2023/5/10 13:46 360压缩 ZIP 文件 211,7 > 🏪 本地磁盘 (C:) JAiScanner-3.1.1.9(1) 2023/6/5 14:03 360压缩 ZIP 文件 216,9 > 🕳 本地磁盘 (D:) 文件名(N): EIPPN-OTA-X-V2.3.0.1-T4-V0.25.11AT3.5.2.gta All files(\*.\*) 打开(O) 取消



# **Chapter 5 function Introduction**

#### 5.1 Introduction of the interface

The device can operate through the client, specifically as follows:

- 1) Ensure that the device is accessible, and click the "Connect" of the client.
- 2) After connecting the device, the main interface of the client is shown in the following

figure. See the table for the introduction of each functional module.



order number	name	Brief description of function
1	menu bar	Set up the client base functions.
2	Configuration of the reader	Menu bar secondary menu, set the parameters of the corresponding module, including template selection, parameter setting, algorithm setting, etc.
3	Tool bar	You can start / stop image acquisition for the device, but also can grasp the map saving, cancel ROI, zoom in and out of preview map, software trigger and other shortcut operations.
4	Preview window	It can preview the currently collected images of the device, the algorithm to read, and draw the effect of the ROI window.
5	history	Display the barcode information currently read by the client in real time.

		You can change the device name, buzzer setting, button
6	Basic	setting, and you can also count the device reading
0	Settings	information, firmware upgrade, view the device log
		information, etc.

#### 5.2 Read code configuration

# 5.2.1 Template selection

Template type support "Template 1" to "Template 5", a total of 5 templates, as

shown in the figure below.

Through the upper left corner pull-down of the "reader configuration" area of the device,

the operation mode can be saved as "template".



🛯 Device manage	ement Scanner/192.168.1.8	8 ~	
	Choose the template Ter	nplate 2 💌	
Code reading Configuration	<ul> <li>□ Template 1</li> <li>□ Template 4</li> <li>□ Template 4</li> <li>□ Template</li> </ul>	mplate 2	olate 3
Trigger	Image acquisition	Algorithr configurat	n ion
Configuration	Adaptive parameters adj	ustment	^
$\bigotimes$	Image Algorithm ROI	Draw	
Format Configuration	Image adjustment	Turn on	^
Configuration	Adjustment mode Compa Automatic exposure Autofocus Automatic code search	tibility mode Turn on Turn on Turn on	•
R	Polarity adaptation	Execute	
Communication Configuration	Camera setting		^
	Exposure time	21627	_0
Configuration	Gain coefficient	75	
<ul><li>⊘ Setting</li></ul>	Gamma	1.0	
Default parameters			
Save parameters	R in the		

#### 5.2.2 Image acquisition

If the recognition effect is not good, you can adjust the parameters of "image acquisition" in "read code configuration", including manually adjusting the camera setting and light source setting, such as exposure time, gain, focus, light source parameters; or adaptive adjustment, and intelligently adjust the camera setting and light source setting through the device itself

E	Choose the template Template 2	•	
Code reading Configuration	Image acquisition	Algorithm configuration	
Trigger Configuration	Adaptive parameters adjustment Camera setting Light source setting		
Format Configuration			_
Output Configuration			

# 5.2.2.1, adaptive parameter adjustment

Adaptive parameter adjustment content includes: image algorithm ROI, image adjustment, light source adaptation, automatic code system search. The user selects the

required adjustment parameters (image quality adaptive, light source, automatic focus, automatic code system search) and clicks to execute the automatic adjustment of exposure, gain, light source, code system and other parameters to achieve the best decoding effect, and the adjustment parameters will automatically set each parameter item.

# **AKUSENSE**

E	Choose the templa	te Template	2	•
Code reading	Image		Algorit	hm
Configuration	acquisition	n	configur	ation
Ē	Adaptive paramete	ers adjustm	ient	
Trigger	Image Algorithm ROI		Draw	të.
configuration	Image adjustment		Turn on	1
$\bigotimes$	Adjustment mode	High quality i	mode	
Format Configuration	Maximum gain	255		
	Automatic exposure		Turn on	
	Autofocus	· .	Turn on	
Output	Automatic code searc	ch	Turn on	
Configuration		Exe	cute	
@	Camera setting			
	Light source settin	g		
Configuration	•••			
- Č				
Manage				
Configuration				
Setting				
efault parameters				

#### 5.2.2.2, Camera settings

• Exposure time: control the opening time of the reader shutter and control the brightness of the image. The longer the exposure time, the brighter the image collected. Can be adjusted by sliding or filling in the numbers;

- Gain index: control the image gain size, control the image brightness, can be adjusted by sliding or filling in the number;
- Tip: the greater the exposure time, the smaller the motion speed supporting

reading; the greater the gain index, the more image noise;

Device manage	ement Scanner/192.168.1.	88 ×	
	Choose the template Te	emplate 2 💌	
Code reading Configuration	Image acquisition	Algorithm configuration	
Ē	Adaptive parameters ac	ljustment	~
Trigger Configuration	Image Algorithm ROI Image adjustment	Draw Turn on	^
$\otimes$	Adjustment mode High o	quality mode	•
Format Configuration	Maximum gain 255	<b>•</b> -	
	Automatic exposure Autofocus Automatic code search	<ul> <li>Turn on</li> <li>Turn on</li> <li>Turn on</li> </ul>	
Output Configuration	Polarity adaptation	Turn on	
Communication Configuration Manage Configuration	Camera setting Light source setting	Execute	× ×
<ul> <li>Setting</li> </ul>			
Default parameters			
Save parameters			

#### 5.2.2.3, Light source setting

Control all fill lights to control the opening and closing of four sets of fill lights, adjust the brightness of each group (1-24), 24 is the maximum brightness; select the corresponding lights, fill in the corresponding number in the light intensity setting, and click Save setting.



#### 5.3 The algorithm configuration

The device can set the relevant parameters of the reading algorithm through the "Algorithm configuration" module.

#### 5.3.1 Read code type

At present, the code reading equipment supports two types of one-dimensional code and QR code. Check the code system of the bar code, which can be selected.

As shown in the figure below, then the algorithm configuration interface displays the selected code system. The more code system is selected, the time it takes for the algorithm to process each picture will increase. It is suggested to choose the corresponding code system according to the actual requirements to achieve the best effect.

E	Choose the template Templ	ate 2 💌	
Code reading Configuration	Image acquisition	Algorithm configuratior	ı
F	Type of code reading		^
Trigger	One-dimensional code		
comguration	CODE128		
$\sim$	CODE39		
$\sim$	CODE93		
Format	Interleaved 2 of 5		
Configuration	EAN13		
	EAN8		
	PharmaCode		
Output Configuration	🔽 QR code		
<u> </u>	QR		
( <u>R</u> )	DM		
ommunication Configuration	Algorithm parameters		^
<u> </u>	Algorithm time limit	2000	ms
	Image Preprocess		Turn
Manage Configuration	Algorithm type	Expert Mode	•
	ISO code based rating standards	ISO1541x	•
Setting	1D/2D Barcode Configuration	QR code	•
efault parameters	Polarity	Compatibility Mode	v
	100		

#### 5.3.2 Algorithm parameters

Set the decoding parameters of one-dimensional QR code.

• Polarity: used to represent the bar code and background color, the parameters
can be set to be white background black code and black background white code and compatible mode.

• Edge type: the parameter can be set as continuous code, discrete code and compatible mode.

Note: the continuous or discrete code to see whether the minimum cell of the code is connected together, connected together is the continuous code, separated for the discrete code.

- Mirror mode: used to distinguish whether the code is a mirror state, can set the parameters as mirror, non-mirror and compatible mode.
- QR distortion: used to determine whether the QR code has a distortion phenomenon, the parameters can be set as distortion, non-distortion and compatibility mode.
- DM code type: used to distinguish the DM code type, the parameters can be set as square, rectangle and compatible mode.
- Operation mode: select the mode for decoding, different modes have different time consumption and results, parameters can be set as top speed mode, ordinary mode and expert mode.
- Number of one-dimensional codes: the maximum number of output one-dimensional codes.
- Number of QR codes: the maximum number of QR codes used to output the QR codes.

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# **AKUSENSE**

	Choose the template Templat	te 2	•	
Code reading Configuration	Image acquisition		Algorithm configuratio	'n
Trigger	✓ QR ✓ DM			
configuration	Algorithm parameters			~
$\bigotimes$	Algorithm time limit	200	00	ms
Format	Image Preprocess			💿 Turn
Configuration	Algorithm type	Ex	pert Mode	•
(1)	ISO code based rating standards	IS	01541x	•
Output	1D/2D Barcode Configuration	O	ne-dimensional code	•
Configuration	Polarity		Compatibility Mode	•
Ø	Application Mode		Normal Mode	•
Communication	Code39 check		Off	•
Configuration	1D Code Number		1	
Ē	One-dimensional coding system ra	ating	Off	•
Manage Configuration	Code based rating			~
	ROI setting under the decod	ing a	algorithm 🔍 Tu	ırn on 🛛 🔨
Setting	Draw ROI manually			Draw
Default parameters	Add multiple ROI in a batch			Draw
Save parameters	Clear all ROI			Clear



E	Choose the template Template	te 2 💌	
Code reading Configuration	Image acquisition	Algorithm configuration	
Trigger Configuration	QR V DM		
comguation	Algorithm parameters		^
$\bigotimes$	Algorithm time limit	2000	ms
Format	Image Preprocess	(	D Turn
conngulation	Algorithm type	Expert Mode	•
	ISO code based rating standards	ISO1541x	v
Output	1D/2D Barcode Configuration	QR code	•
comgulation	Polarity	Compatibility Mode	T
R	Mirror Mode	Compatibility Mode	¥
Communication	Application Mode	Normal Mode	•
Configuration	QR Distortion	Turn on	•
	QRVersion	Close	•
Manage	Edge Type	Compatibility Mode	×
Configuration	DM Type	Compatibility Mode	•
Setting	DMVersion_1	Close	•
Default parameters	2D Code Number	2	
belault parameters	QR mode	Model2	•
Save parameters			

## 5.3.3 The ROI setting of the decoding algorithm

The algorithm ROI can only identify the selected regions of interest of the device, and other areas do not do algorithm processing to improve the reading efficiency. The device may set up a number of algorithm ROI areas and output the barcode results from small to large order according to the number of the algorithm ROI regions where the barcode is located. The output rules are as follows: 1, bar code 2, bar code 3, bar code 4, barcode. If the barcode is not identified in the ROI area of an algorithm, the barcode information in the corresponding area is changed to the set noread character. Currently, it supports manual and batch addition of 2 algorithm ROI drawing methods, and supports all ROI.



#### 5.3.4 Manual draw of the ROI

Click Set to enter the manual set ROI mode, you can drag to set the ROI size according to the requirements (the ROI size can be set through the center point X / Y, width and height fine), the box selection area is the area of interest of the algorithm.

① Center X: Center point X coordinate of the ROI box.

② Center Y: Center point Y coordinate of the ROI box.

③ Width: the number of pixels in the ROI horizontal direction.

④ Height: the number of pixels in the ROI vertical direction.



### 5.3.5 Batch-added ROI (checkerboard)

Used to batch-plot the ROI.

① Drawing area: center X: batch setting of area center point X coordinate, center Y: batch setting of area center point Y coordinate, height: the number of pixels in the vertical

direction of the batch set area, width: the number of pixels in the horizontal direction of the batch set area (default is the maximum number of pixels).

② Spacing setting: ROI spacing between rows and rows; column spacing: spacing between ROU columns.

③ ROI number (row \* column): Batch sets the number of rows and columns of the ROI (the maximum value is dynamically adjusted according to the drawing local size and row / column spacing size).

	Choose the template Template 2	•			• • • F	NG				ug mode
Code reading Configuration	Image acquisition	Algorithm configuration								
Trigger	Type of code reading		^			Draw area		×		
Configuration Software	CODE128 CODE39 CODE33 CODE33					Center point X 628 Width 779 Spacing setting	Center point Y Height	361 408		
Configuration	<ul> <li>EAN13</li> <li>EAN8</li> <li>PharmaCode</li> </ul>					Row spacing (0 *Ronge: 0-1 Row and column setting	Column spacing 'Range:	0-119		
Output Configuration	QR code					Number of rows 4 'Range: 1~4	Number of colum	nns 3 1-7		
R	DM						Generate	Connem		
Communication Configuration	Algorithm parameters ROI setting under the decoding algor Draw ROI manually	ithm 🔹 Turn on Draw	~							
Manage Configuration	Add multiple ROI in a batch	Draw	Success rate of	freading0/132(0.00%)	Resolution: 1280 *800   R	eal-time frame rate: 0.0 frame/s   RGB	23 23 23   Location	n: 820,551   Number o	f barcodes:0	
	Clear all ROI	Clear	History	sage cachflistory ISS					Empty the record	Pause recording
			Image ID	Image name	Type of barcode	Code reading result	Code length	Quality Grading	PPM (ms)	(ms)
			132	20230605161446848	AutoParam	Adaptive parameter tuning	0	F	0.0 0	0
			131	20230605161446732	AutoParam	Adaptive parameter tuning	0	F	00 0	0
Setting			130	20230605161446595	AutoParam	Adaptive parameter tuning	0	-	0.0 0	0
			12.9	20230605161446301	AutoParam	Adaptive parameter tuning	0	F	0.0 0	0
Default parameters			127	20230605161446164	AutoParam	Adaptive parameter tuning	0	F	00 0	0
Save parameters			126	20230605161446028	AutoParam	Adaptive parameter tuning	0	F	0.0 0	0

④ Generation: Determine the above settings.

# 5.3.6 Clear all of the ROI

Used to clear all of the current ROIs.



E	Choose the template	Template 2	*		
Code reading Configuration	Image acquisition		Algorithi configurat	n ion	
E	Type of code reading				^
Trigger Configuration	One-dimensional coc	le			
$\otimes$	CODE128				
Format Configuration	Interleaved 2 of 5				
	EANS EANS PharmaCode				
Output Configuration	QR code				
R	QR M				
Communication Configuration	Algorithm parameters	5			$\sim$
_	ROI setting under the	decoding algo	orithm 🔍	Turn on	^
	Draw ROI manually			Draw	
Manage Configuration	Add multiple ROI in a bate	ch		Draw	
	Clear all ROI			Clear	

Setting

Default parameters

Save parameters

# 5.4 Trigger the configuration

The trigger types include Continuous Trigger, IO Trigger, Software Trigger, Network Trigger, and Serial Port Trigger.

Continuous trigger Code reading Configuration Continuous trigger IO trigger Software trigger Network trigger Serial port trigger Networking host Networking slave Networking slave	
IO trigger Software trigger Software trigger Network trigger Serial port trigger Networking host Networking slave	
Configuration Software trigger Network trigger Serial port trigger Networking host Networking slave Networking slave	
Network trigger   Serial port trigger   Serial port trigger   Networking host   Networking slave	
Serial port trigger Networking host Networking slave Networking slave	
Trigger         Configuration         Networking host         Networking slave         Format         Configuration	
Networking slave	
Format Configuration	
Format Configuration	
Configuration	
Output	
Output	
Configuration	
Configuration	
Manage	
Configuration	
Setting	
Default parameters	
Save parameters	

#### The trigger type is as follows

## **5.4.1 Continuous trigger**

The continuous trigger indicates that the reader continuously triggers the pictures.

#### 5.4.2 IO Trigger

The IO trigger indicates that the reader takes the trigger photo after receiving the signal. This trigger mode requires set after selecting Single (External) mode.

Task timeout: Set the maximum task time for a single trigger. When the trigger is turned on, and the timeout time is not closed, the forced closure is performed. Default 9999, setting range of 10-9999.

### 5.4.2.1 Start to trigger

Open and close the start-triggered selection page.



	Trigger type IO trigger		¥
Code reading Configuration	IO trigger Task timeout	✓ Timeout enable 9999	ms
Trigger Configuration	<ul> <li>The task time is fixed to a timeout tim</li> <li>Multiple Barcode termination Enable</li> </ul>	1	Codes
$\otimes$	Image collection mode	Cache Mode	¥
Format Configuration	Maximum number of images	100	
	get image frequency	1 out of 1	٣
Output Configuration	IO anti shake time	2000	us
Q	Trigger starts		4
Communication	Delay trigger	0	ms
coniguration	Trigger signal Line0		•
Manage	Trigger form Rising edge		
Configuration	Trigger ends		
	Delay trigger	0	] ms
	Trigger signal Line0		•
Setting	Trigger form Falling edge		•
Default parameters			
Save parameters			

### 5.4.2.2. End of the trigger

Open and close the termination trigger selection page.

• Delay trigger: the time set by the trigger delay on the start trigger page

indicates the trigger signal. The reading is stopped at the time set when the

trigger delay on the termination trigger page indicates the termination trigger signal. The default is to 0ms. Set the range of 0ms-9999ms.

• Trigger signal: the trigger signals under the start trigger page are divided into "Line0" and "Line1", corresponding to the hardware trigger inputs IN 0 and IN 1 respectively; the trigger signals under the termination trigger page are divided into "Lin0" and "Line1", and the trigger inputs of the hardware are IN 0 and IN 1 respectively.

# **AKUSENSE**

	Trigger type	IO trigger		•	
Code reading Configuration	IO trigger Task timeout	e is fixed to a timeout tim	✓ Timeout enable ne	9999 ms	
Trigger Configuration	🗌 Multiple Bard	code termination Enable	1	Codes	
$\otimes$	Image collection	n mode	Cache Mode	•	
Format Configuration	Maximum number of images		100		
	get image freque	ency	1 out of 1		
Output Configuration	IO anti shake tim	ne	2000	us	
Communication Configuration	Trigger start	s	0	ms	
Manage	Trigger form	Rising edge		•	
Configuration	Trigger ends				
	Delay trigger		0	ms	
	Trigger signal	Line0		<b>*</b>	
Setting	Trigger form	Line1			
Default parameters					
Save parameters					

• Trigger form: The trigger form under the start trigger page is divided into

"rising edge" and "falling edge". The up edge indicates when the reader receives the up signal and starts reading; the down edge starts reading when the reader receives the down signal. The trigger form under the termination trigger page is divided into "rising edge" and "falling edge". The up edge means that the reader receives the up edge signal and the reader receives the down edge signal.

# **AKUSENSE**

	Trigger type	IO trigger		•
Code reading Configuration	IO trigger Tasktimeout		✓ Timeout enable	9999 ms
E.	🗌 The task tim	e is fixed to a timeout tim	ie	
Trigger Configuration	🗌 Multiple Bar	code termination Enable	1	Codes
$\otimes$	Image collectio	n mode	Cache Mode	٣
Format Configuration	Maximum number of images		100	
	get image frequ	ency	1 out of 1	•
Output Configuration	IO anti shake tin	ne	2000	us
Ø	Trigger start	s		
Communication	Delay trigger		0	ms
configuration	Trigger signal	Line0		*
Manage	Trigger form	Rising edge		•
Configuration	Trigger ends	i		
	Delay trigger		0	ms
	Trigger signal	Line0		•
Setting	Trigger form	Falling edge		•
		Rising edge		
Default parameters		Falling edge		
Save parameters				

### 5.4.3 Software trigger

By clicking the "software trigger" content, the reader can trigger photos.

#### 5.4.4 Network Trigger

Set the maximum task time for a single trigger.

When the trigger is turned on, and the timeout time is not closed, the forced closure

is performed. Set range 10-9999; maximum number of pictures range from 1-100.

# 5.5 Format configuration

The format configuration contains two plates: "Data Filter" and "Data Processing",

which can set the filter rules and output data of the device.

	Configuration of format	
Code reading Configuration	Data filtering Data processing	~ ~
Trigger Configuration	Host networking data proce Duplicate barcode filtering Add device number	Close
Format Configuration	Networking separator	
Output Configuration		
Communication Configuration		
Manage Configuration		
<ul> <li>Setting</li> <li>Default parameters</li> </ul>		
Save parameters		

# 5.5.1 Data Filtering

Data filtering can be read by the device according to the set rules.

• Duplicate time filtering: when this function is enabled, the repeat code is not output during the set time; (30-30000)

Ex: When set to within 500ms, the code content is 123452. If it runs for many times within 500ms, the result value is output once;

• Read quantity filtering: when this function is enabled, if the same reading number exceeds the set value, it is not output; (1-100)

Ex: when set to 3, when the code content is 123452, the output number of 123452 can not exceed 3 times;

• Barcode length limit: when this function is enabled, only the code within the limit

range is output;

• Specify the beginning: When the function is enabled, only the specified beginning

code (can have multiple beginning);

• Specify the end: When this function is enabled, only the code with the specified

end (can have multiple endings);

• Must include: when this function is enabled, the output meets the code that

contains the set content (there can be multiple contents);

- Can not include: When this function is enabled, the output meets the code that does not contain the set content (can have multiple not included);
- Character digit offset: output from setting the bit (ex, code: 1232334, set to 3, code output information 2334);
- Output character requirements: full numbers: output numbers, letters: output letters, numbers or letters;

• Bar code verification: input the target character information to verify whether the above filtering conditions are met. Do not display without input, OK / NG, OK when the filtering conditions are met, and NG if it is not satisfied.

	Configuration of format		
	Data filtering		~
Configuration	Filtering of repeated time		~
Ē	Filtering of Close		~
Trigger	Duplicate barcode filtering	Close	
	Filter Ignore NG 💿 Close		
$\boxtimes$	Barcode Filtered by Number	Close	~
Format Configuration	Character Close		$\sim$
	Barcode length 💿 Close		~
Output Configuration	Specify The beginning		$\sim$
R	Specify Close		$\sim$
Communication	Must contain 🔘 Close		$\sim$
Configuration	Cannot contain 🕥 Close		$\sim$
	Character requirement Close		$\checkmark$
Manage Configuration	Barcode verification		
	Data processing		$\sim$
	Host networking data proce	essing	~
	Duplicate barcode filtering	Close	
Setting	Add device number	Close	
	Networking separator		
Default parameters			
Save parameters			

## 5.5.2 Data processing

The data processing section can set the barcode results output by the device. With

different communication protocols selected, the specific parameters are different.

• Sort method: sort the code system output results, support multiple sorting rules:

① Bar code length ascending order: according to the barcode content length from small to large sorting.

② Bar code length in descending order: according to the content length of the bar code from large to small sorting.

③ Bar code type ascending sequence: one-dimensional code: code39,93,128, ITF 25, EAN; QR code: QR / DM.

④ Bar code type in descending order: QR code: DM / QR, 1 D code: EAN, ITF 2 / 5, code128,93,39.

Note: The subsequent new code system is arranged in sequential order according to the above combination.

⑤ ROI ascending sequence: according to the set ROI number from small to large sorting.

6 ROI descending order: according to the set ROI number.

⑦ Bar code center X liter / descending order: according to the code center X position from small to large sorting (descending order and vice versa).

**(B)** Bar code center Y ascending / descending order: according to the code center Y position from small to large sorting (descending order and vice versa).

③ Bar code position ascending / descending order: according to X from small to large, Y from small to large order (descending order and vice versa).

	Configuration of fo	rmat		
Code reading Configuration	Data filtering Data processing			~
Ē	Sorting order	Baro	ode length ascending	order 🔻
Trigger Configuration	Barcode separator	Bar	code length descendi	ng order
XX	Data template Output starts	Bard	code type in ascendin code type in descendi	g order
Format	Output ends	Baro	code center X in ascer	nding or
	Barcode content	Bard	code center X in desc code center Y in ascer	ending o nding or
Output	Vertex coordinates	Bar	code center Y in desce	ending o
Configuration	{code_content}	Bard	code location in ascer	ending or
© Communication Configuration				
Manage Configuration				Qualified
	No code displayed in ROI Decoding failed to output characters		Close	
Setting	Output Length	Close	▼ 24	
	Host networking da	ata proce	ssing	~
Default parameters	Duplicate barcode	filtering	Close	
Save parameters	Add device number		Close	

Bar code divider, semicolon (;), comma (,), slash (/), backslash (\), underline (\_),
 middash (-).



	Configuration of for	rmat		
Code reading Configuration	Data filtering Data processing			~
Trigger Configuration	Sorting order Barcode separator Data template Output starts	Barc Sem Sen Cor	ode length ascenc iicolon (;) nicolon (;) nma (,)	ling order 🔹
Format Configuration	Output ends Barcode	Bac	sn (/) kslash (\) lerscore (_)	
Output Configuration	content Vertex coordinates {code_content}	Unc Nor \r	derline (-) ne	]
Communication Configuration		\r\n	<u>.</u>	
Manage Configuration				Qualified
	No code displayed in ROI Decoding failed to output characters		Close	
Setting	Output Length	Close	▼ 24	
	Host networking da	ata proces	ssing	~
Default parameters	Duplicate barcode	filtering	🕥 Close	
Save parameters	Add device number		Close	

#### • Data template

Used to process and edit the data.

• Output starts

It includes bar code content, bar code type, bar code Angle, vertex coordinates, quality level, ROI serial number, PPM, time, and return change.

Code reading	Data filtering Data processing		~
Trigger Configuration	Sorting order Barcode separator Data template Output starts Output ends	Barcode length ascending order	
	Barcode content Vertex	Type of barcode Text	Barcode angle
Output	coordinates	input	ROI No.
onfiguration	РРМ	Time	Barcode Quality
Q	New line	Enter	Wrap
mmunication	Hexadecimal input	Barcode quantity	Code length
onfiguration	Collapse 🔺		
Manage configuration	{code_content}		
Setting	No code displayed in ROI	Close	Qualifie
Data management			

#### • Output end

Contains text input, output begins, and output ends.

1 Text input: an input for custom characters.

- ② Output Start / End: custom settings for start and end.
- ③ Preview content: Preview of editing content.
- ROI without read completion

No recognition code in the ROI area, and the output read code failed to associate

characters.

• Output failed character

Used to define read failure characters.

#### 5.6 Output configuration

The continuous output time is 0~9999ms, divided into 3 output.

#### 5.6.1 OUT settings

The OUT setting can control three sets of different output control, divided into "OUTLINE1", "OUTLINE2" and "OUTLINE3" corresponding to the hardware trigger output "OUT 0", "OUT 1" and "OUT 2" respectively.

①OUTLINE1: You can select "OK", "Read code failure", "abnormal" three states."OK" indicates the read success output signal; "read failure" means the read failure output signal; "abnormal" indicates the device self-test abnormal condition output signal. ②OUTLINE2: You can select "OK", "Read code failure", "abnormal" three states."OK"

indicates the read success output signal; "read failure" means the read failure output signal; "abnormal" indicates the device self-test abnormal condition output signal.

③OUTLINE3: You can select "OK", "Read code failure", "abnormal" three states."OK" indicates the read success output signal; "read failure" means the read failure output signal; "abnormal" indicates the device self-test abnormal condition output signal.
④ Output duration: the duration of the output signal, the default is 9ms, range 0-9999ms.





#### 5.7 Communication configuration

The "Communication Configuration" section includes TCP and serial port to set the

communication protocol required for selecting the data transmission, which is related

to the operation mode of the device.

### 5.7.1 Using the TCP Server protocol

Generally is the common TCP protocol communication, code scanner as Server end.



	Configuration of communica	tion TCP	v
Ē	✓ Use the TCPServer protocol		^
Code reading Configuration	IP address	192,168,1.88	
<u>An</u>	Subnet mask	255.255.255.0	
Trigger Configuration	TCP port	15000	
$\otimes$	Heartbeat identifier:	online	
Format Configuration	Use the ModbusTCP proto	ocol	~
	🗌 Byte exchan 📄 State machin	ie mode	
Output	Modbus service port	502	
Configuration	Device station No.	1	
@	Transmission address	10	
Communication	Length of transmission data bit	10	
Configuration	Trigger address		
1.	Length of trigger data bit	10	
Manage	$\Box$ Use the MC protocol		$\sim$
Configuration	Use TCPClient		$\sim$
	Use EtherNet/IP protocol		$\sim$
	Use Profinet		$\sim$
	□ use fins		$\sim$
<ul><li>⊘ Setting</li></ul>			
Default parameters			
Save parameters			

## 5.7.2 Using the ModbusTcp protocol

In addition to the TCPServer, you can also choose the ModbusTcp protocol, which needs to configure the Modbus service IP and the Modbus service port respectively.

- Service IP: Connect to the IP address of the corresponding device.
- Service port: to connect to the port number of the corresponding device.
- Equipment station number: the station number connecting the corresponding equipment.
- Transfer address: the address where the PLC transfer data.
- Transfer data bit length: the length of the data bytes.
- Trigger address: the PLC address required to trigger the camera.
- Trigger data bit length: the length of the required data bit to trigger.

# **AKUSENSE**

	Configuration of communication	tion TCP	¥
Ē	Use the TCPServer protocol		~
Code reading Configuration	✓ Use the ModbusTCP proto	~	
(fm	C Server Client	e mode	
Trigger	Modbus service port	502	
Computation	Device station No.	1	)
$\otimes$	Transmission address	10	
Format	Length of transmission data bit	10	)
Configuration	Trigger address	0	
	Length of trigger data bit	10	
Output Configuration	Use the MC protocol		~
	Use TCPClient		$\sim$
R	Use EtherNet/IP protocol		$\checkmark$
Communication Configuration	Use Profinet		~
Manage Configuration			
<ul> <li>Setting</li> </ul>			
Default parameters			
Save parameters			

### 5.7.3 Using the MC protocol

The MC protocol requires a separate configuration of the MC service IP, the MC

service port, etc.

- Service IP: Connect to the IP address of the corresponding device.
- Service port: to connect to the port number of the corresponding device.
- Equipment station number: the station number connecting the corresponding equipment.
- Device network number: the network number connected to the corresponding device.
- Transfer address: the address where the PLC transfer data.
- Transfer data bit length: the length of the data bytes.

# **AKU**SENSE

	Configuration of communica	tion TCP 🔹
Ē	Use the TCPServer protoc	col 🗸
Code reading	Use the ModbusTCP proto	ocol 🗸
Configuration	🗹 Use the MC protocol	~
Ē	MC service IP	
Trigger Configuration	MC service port	502
$\sim$	Device station No.	0
$\otimes$	Device network No.	0
Format Configuration	Transmission address	10
	Length of transmission data bit	10
	Trigger address	0
Output Configuration	Length of trigger data bit	10
	Use TCPClient	~
(2)	Use EtherNet/IP protocol	~
	Use Profinet	~
conniguration	use fins	~
Manage		
Configuration		
Setting		
Default parameters		
Save parameters		

### 5.7.4 Serial port

When the communication protocol selects Serial, you can set the following parameters:

- Serial port rate: Set the serial port port rate at the receiving end.
- Serial port parity check: set the serial port check bit of the receiving end.
- Serial data bit: Set the serial data bit of the receiving end.
- Serial end bit: Set the serial stop bit of the receiver.

# **AKUSENSE**

_	Configuration of communica	tion Serial port	•
Code reading	Serial port		~
Configuration	Baud rate	9600	•
<u>An</u>	Parity check	None	٣
Trigger	Data bit	8	٣
Configuration	Stop bit	1	٣
$\bigotimes$	Use the ModBusRTU prote	ocol	^
Format	🔵 Server 🔍 Client		
Configuration	Byte exchange		
	Device station No.	2	
Output	Transmission address	10	
Configuration	Length of transmission data bit	10	
0	Trigger address		
Communication	Length of trigger data bit	10	
Configuration			
[=]			
Manage			
Configuration			
Sotting			
le setting			
afault name atom			
Perautic parameters			
Save parameters			

## 5.7.5 Using the ModBusRTU protocol

- Equipment station number: the station number connecting the corresponding equipment.
- Transfer address: the address where the PLC transfer data.
- Transfer data bit length: the length of the data bytes.
- Trigger address: the PLC address required to trigger the camera.
- Trigger data bit length: the length of the required data bit to trigger.

#### **5.8 Configuration management**

Configuration management includes Restore All Default Configuration and Save All Configuration.

	Manage configurati	on		
Code reading Configuration	Save Configuration			
	Configuration 1	٣	Confirm	
<u>R</u>	Load Configuration			
Trigger	Configuration 1	¥	Confirm	
Configuration	Default Settings			
$\infty$	Configuration 1	¥	Confirm	
Earmat				
Configuration				
Output				
Configuration				
0				
Communication				
Configuration				
(Landardon)				
Manage				
Configuration				
Sotting				
∖⊡⁄ Setting				
Default parameters				
Save parameters				
# 5.9 Settings

# **5.9.1 Equipment Settings**

• device name

You can modify the reader device name. Support for Chinese, English, letters, characters, numbers, etc.

• The buzzer setting

The decoding can be opened after success / failure, and the sound can be set for 40ms, 80ms, and 120ms.

• Key Settings

Trigger the key, turn on / off. Function button, on / off. Position the light, turn it on /

off.

# AKUSENSE

Name of device	Scanner	
networking result numbered	No	•
send out continuous/software	No	•
Missing trigger statistics	Close	•
Simultaneous monitoring of external trigger sources	Close	•
Buzzer setting		
Decoding sound	Close	
Sound duration	Medium (80ms)	
Button setting		
Trigger button	Open	•
Function button	Open	•
Positioning lamp	Close	•
Map transfer settings		
	Name of devicenetworking result numberedsend out continuous/softwareMissing trigger statisticsSimultaneous monitoring of external trigger sourcesBuzzer settingDecoding soundSound durationButton settingTrigger buttonFunction buttonPositioning lampMap transfer settings	Name of device       Scanner         networking result numbered       No         send out continuous/software       No         Missing trigger statistics       Close         Simultaneous monitoring of external trigger sources       Close         Buzzer setting       Close         Decoding sound       Close         Sound duration       Medium (80ms)         Button setting       Open         Trigger button       Open         Function button       Open         Positioning lamp       Close

# 5.9.3 Backup and Restore

The reader can back up information such as Settings to the PC, or restore Settings

and restore factory Settings.

# **AKUSENSE**

Setting					
Device setting	ig Backup		Reset		
	Path	Backup	Path	Reset	
Backup and recovery				Restore factory settings	
Log view	Configuration	Param	eters		
Storage configuration	<ul> <li>Equipment configuration</li> <li>Name</li> <li>Product model</li> <li>Hardware Version</li> <li>Serial number</li> <li>Program version</li> <li>Application identification</li> <li>Algorithm version</li> <li>UDP process version</li> <li>Network card rate of scanner</li> <li>Operation mode</li> <li>Buzzer</li> <li>Trigger button</li> <li>Function button</li> <li>Configuration</li> <li>of code reading</li> <li>Choose the template</li> </ul>	Scanne v2.3.1.0 20230 v0.25.2 20230 Speed Debug Close Open Open Open	er 5 5251058-Trig-Sys:V3 23h-nxp100w-AT:v3. 5081137_1-Type:VS1 : 100Mb/s ; mode ate 2	S1000Pro-sMem:2G-1719220 5.3-Sys:d1.1.3.7 000Pro-RTT:0-Sv:d1.1.3.7 -Mem:2G-	

# 5.9.4 Log viewing

You can view the log level "ERROR", "WARN", "INFO", "DEBUG" and other content;

You can Refresh Log, Clear Log, and Export Log.

### 5.9.5 Storage configuration

- The reader will save the configuration. The Data Record, Decoded Image, Undecoded Map, and Original Map can be turned on / off.
- The PC will save the configuration. You can freely choose the saved path.
- Capture diagram configuration. You can save the scratch path.
- Grasping time: 1s~60min.



#### • Grab quantity: 2 ~ 10,000 pieces.

Setting		×
Device setting	Code reader saves the configuration	
Backup and	Data record Decode image Undecoded image Raw image	
recovery	Save	
Log view	Save configuration on PC	
	Data record	
Storage	Path D:/机器视觉/算法平台/MJ_AiScanner-3.1.1.9(1)/MJ_AiScanner-3.1.1.9/data Browse	
configuration	File name	
t	Decode image 🔍	
	Path /算法平台/MJ_AiScanner-3.1.1.9(1)/MJ_AiScanner-3.1.1.9/data/OKImage Browse	
	Prefix	
	Undecoded image 💿	
	Path 平台/MJ_AiScanner-3.1.1.9(1)/MJ_AiScanner-3.1.1.9/data/NGImage Browse	
	Prefix	
1	Configuration for capturing images	
	Path D:/机器视觉/算法平台/MJ_AiScanner-3.1.1.9(1)/MJ_AiScanner-3.1.1.9/capture Browse	

# Chapter 6 Frequently Asked Questions

### 6.1 Client software identified the device but showed

### "inaccessible"

#### • probable cause:

1) The IP of the device and the network card connected to the device are not in the

same network segment.

2) The network card has acquired the IP of two different segments.

#### • resolvent:

1) By modifying the device IP mode, make the computer and the device in the same

network segment.

Setting		×
Device setting	Code reader saves the configuration	
Backup and recovery	Data record Decode image Ondecoded image Save	
Log view	Save configuration on PC Data record	
Storage	Path D:/机器视觉/算法平台/MJ_AiScanner-3.1.1.9(1)/MJ_AiScanner-3.1.1.9/data Browse	
configuration	File name	
	Decode image	
	Path /算法平台/MJ_AiScanner-3.1.1.9(1)/MJ_AiScanner-3.1.1.9/data/OKImage Browse	
	Prefix	
	Undecoded image	
	Path ;平台/MJ_AiScanner-3.1.1.9(1)/MJ_AiScanner-3.1.1.9/data/NGImage Browse	
	Prefix	
	Configuration for capturing images	
	Path D:/机器视觉/算法平台/MJ_AiScanner-3.1.1.9(1)/MJ_AiScanner-3.1.1.9/capture Browse	

3) Click the computer "Start" -search box enter "cmd" -right click administrator permission to run-input: netsh winsock reset, reset the network card information, restart the computer.

an 管理员:命令提示符		12	×
C: \Users\junwe>ipc	onfig netsh winsock reset		
Windows IP 配置			
以太网适配器 以太网	:		
连接特定的 DNS 后续	<b>#</b> :		
IPv4地址			
子网掩码			
IPv4地址	169.254.52.250		
子网掩码 •••••	•••••••••••••••••••••••••••••••••••••••		
默认网关			

## 6.2 After Setting the debugging mode, the client is not saved

• Possible reason: The system has temporarily stored the setting parameters and needs

to save all the settings manually after the setting is complete.

- Solution: Click Configuration Management-Save All Configuration.
- The specific operations are performed as follows:



## 6.3 The barcode material is metal / PCB, with clear focus but

### unrecognition

- probable cause:
  - 1) The identified material is black bottom, and the brightness of the reading area is

too low.

2) The identified material is seriously reflective.



#### • resolvent:

1) Increase the Light Source value, or the Gain value to increase the brightness of the reading area.

2) Adjust the reader angle / material angle to avoid the direct light source and adjust the exposure and gain.

### 6.4 The smaller bar codes cannot be identified

• Possible reasons: the bar code in the field of vision is less, the accuracy of the bar code is not enough, resulting in the inability to identify.(One-dimensional code stable reading needs PPM 2, QR code stable reading PPM 3.)

\* PPM: it is the minimum number of pixels occupied by the bar code module.

#### • resolvent:

1) Zoom: reduce the distance.

### 6.5 How to use the various trigger modes of the client software

```
• resolvent:
```

 Network trigger: use third-party software to verify, the software set the reader for the network trigger, set the same port, the same trigger command, the same network
 IP segment (some routes may open IP isolation, need to be closed).

2) IO trigger: IO trigger signal line needs to be connected, the software sets the reader as IO trigger, the wiring should be the same as LINE 0 / 1, and the trigger command is the same [there will be two connections of NPN and PNP. General connection: IN 0 / IN 1 contact generator OUT line, IN \_ COM line positive (npn) or negative (ppp)].

3) Serial port trigger: need to connect DB9 terminal, software set correct COM port, same port rate, data bit, stop bit, check bit. Same as for the trigger command.

4) Software trigger: requires the client software and the code reader to connect to the same network segment.

# 6.6 Network trigger was unsuccessful

- Possible reason: Only client mode is currently supported on the device side.
- Solution: Adjust the PLC device network trigger mode.