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User & Development Manual

FV10X (V2.0) Series

Industrial Fixed-mount Barcode Scanner

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Setup Process



FV104 is a manual focusing barcode reader, while FV105 is an automatic focusing reader.

Most of the content in this manual takes FV105 model as an example, and the few differences between FV104 and FV105 will be described in notes.



1 BEFORE

1.1 Packing list

| Model | Product Name Packaging Content | | QTY | Image | |
|----------------------|--|--|-----|-----------------------|--|
| FV10X-XXXX (V2.0) | Industrial Fixed-mount Barcode Scanner | Host | 1 | | |
| | | Quick Reference Guide | 1 | Quick Reference Guide | |
| | | L-shaped metal fixing piece | 1 | | |
| | | Insulated fixing sheet (acrylic) | 1 | | |
| | | Insulated screw (nylon) | 4 | 9 9 9 9 7 7 7 | |
| | | Focus adjustment wrench (FV104 standard) | 1 | | |



1.2 Accessories

| Name | Packaging Content | Model | QTY | Image |
|---------------------------|---|-------------------------|-----|-------|
| Cables | Serial port communication cable | H12M1V-S12 M1-D9P-A1 | 1 | |
| | Ethernet communication cable | H8S-2M-RJ-V 3 | 1 | |
| Light | Full atomization filter (optional) | FT10012DD | 1 | |
| Light Source Filter | Full polarization filter (optional) | FT10012PP | 1 | |
| | Semi-atomized + semi-polarized filter (optional) | FT10012PD | 1 | |
| Power | Power adaptor | WT48-240200 | 1 | |
| Supply | | 0-T | | |

1.3 Component name and function introduction

1.3.1 The product shown below is FV104





1.3.2 The product shown below is FV105

| 1 | Lens | | | | | |
|----|---|--|--|--|--|--|
| 2 | Lens cover | | | | | |
| 3 | Laser aimer | | | | | |
| 4 | Array LED light source | | | | | |
| 5 | 8 PIN Circular connector (Ethernet communication) | | | | | |
| 6 | 12 PIN Circular connector (Serial port communication, Power supply, I/O) | | | | | |
| 7 | PWR (Power indicator - red) | | | | | |
| 8 | GOOD (Reading success indicator - blue) | | | | | |
| 9 | FAIL (Reading failure indicator - red) | | | | | |
| 10 | TRAIN (indicator of one-click automatic parameter adjustment) | | | | | |
| 11 | Trigger button | | | | | |
| 12 | Light source filter buckle | | | | | |
| 13 | Fixing hole for light source filter | | | | | |
| 14 | M5 Mounting hole | | | | | |



1.4 System configuration







2 Connection and Wiring

2.1 Serial port communication cable connection

A.Connection between Host and Serial port communication cable



The arrow in the figure indicates the connection position of the Serial port cable. Align the protrusion on the cable connector with the groove of the corresponding device port; Rotate the connector screw clockwise to secure it; It is prohibited to plug and unplug the connector during normal working state/configuring process, otherwise it may cause abnormal states of the reader to occur.

B.Connection of the power supply



The arrow in the figure indicates the connection position of the power supply on the Serial port cable.

2.2 Ethernet communication cable connection

Connection between Host and Ethernet communication cable



The arrow in the figure indicates the connection position of the Ethernet communication cable. Align the protrusion on the cable connector with the groove of the corresponding device port; Rotate the connector screw clockwise to secure it; It is prohibited to plug and unplug the connector during normal working state/configuring process, otherwise it may cause abnormal states of the reader to occur.

Note: To power on the device (in working state), a Serial port communication cable must be connected to the device.



2.3 I/O terminal wiring

The I/O terminal is located on the Serial port communication cable. If the device is connected to external signals or drives external devices, this terminal needs to be used for connection with external devices. The picture of the terminals are shown below, and the definitions of the terminals are shown in the table.



| Terminal color | Terminal name | Description | Remark | | |
|-------------------|--|-------------------------|---|--|--|
| Black | GND | Power grounding | | | |
| Purple | GND | Power grounding | | | |
| Red | VCC | Power input (output) | Output: Can supply power to external devices (Note ①) Input: Can be connected to 20-30V for power supply | | |
| Blue | VCC | Power input (output) | Output: Can supply power to external devices (Note ①) Input: Can be connected to 20-30V for power supply | | |
| Pink | IN-C | Input common | Connect to VCC - input signal low level valid; Connect to GND - input signal high level valid | | |
| Grey | IN1 | Input signal 1 | Start reading NPN: ≤16V PNP: ≥5V (Max : 24V) | | |
| Dusty pink | IN2 | Input signal 2 | Reserved | | |
| Brown green | OUT-C | Output common | Form voltage feedback with OUT1-OUT4, 5V\24V\external voltage (not exceeding 30VDC) | | |
| Red blue | OUT1 | Transistor output 1 | Read success Internal pull-up optional, effective level selectable (Note ②) | | |
| White green | OUT2 | Transistor output 2 | Read failure Internal pull-up optional, effective level selectable (Note ②) | | |
| White | OUT3 | Transistor output 3 | Internal pull-up optional, effective level selectable (Note ②) | | |
| Brown | OUT4 Transistor output 4 Internal pull-up optional, effective level selectable (Note ② | | | | |



| Black Po |
|----------|
|----------|

Note①: It depends on the voltage of the power adapter connected to the Serial port cable. Note②: The effective level value can be set and defaults to 24VDC.

Please strictly follow the instructions when using I/O terminals. If external device is not connected according to the manual instructions or if the connection of external device exceeds the specified limit of load, it may cause damage to the product itself and inability to enjoy warranty and repair services.

2.4 Wiring according to purpose

2.4.1 I/O terminals wiring for power supply



2.4.2 NPN type photoelectric sensor triggering wiring



Select the NPN type, connect the IN-C terminal to the VCC firstly, then connect the photoelectric sensor to the relevant scattered wire terminals. The wiring sequence corresponds to the table below:



| Photoelectric sensor | Signal terminal |
|----------------------|-----------------|
| Brown (+) | VCC |
| Blue (-) | GND |
| Black (OUTPUT) | IN1 |

2.4.3 PNP type photoelectric sensor triggering wiring



Select the PNP type, connect the IN-C terminal to GND firstly, then connect the photoelectric sensor to the relevant scattered wire terminals. The corresponding wiring sequence is shown as the table:

| Photoelectric sensor | Signal terminal |
|-------------------------------|-----------------|
| Brown (+) | VCC |
| Blue (-) | GND |
| Black or other color (OUTPUT) | IN1 |

2.4.4 Switch and relay triggering wiring

Method 1:







ed blue/white

black tube color PG

green/white/brown black or purple GND

OUT1~4

2.4.5.1 Taking NPN type alarm light as an example for wiring

The external load wiring needs to be set with logic, logic setting method: setting interface ->Input/Output Settings ->24V internal pull-up open, the scattered wire terminal VCC is connected to the OUT-C terminal, while the positive pole of the load is connected to the OUT-C terminal (taking the NPN type alarm light as an example), the negative pole is connected to the OUT1 and OUT2 output terminal. When reading succeeds, the green light lights up, when reading fails, the red light lights up and the alarm sounds. The corresponding wiring sequence is shown as following table:

| External load (alarm light as an example) | Signal terminal |
|---|-----------------|
| + (Power input wire) | OUT-C |
| - (Green light control wire) | OUT1 |
| - (Red light control wire) | OUT2 |
| - (Buzzer control wire) | OUT2 |



2.4.5.2 Use relay as an example for wiring

Settings interface ->Input/Output settings ->24V internal pull-up open, connect the VCC of the scattered wire terminal to the OUT-C terminal, while connect the relay coil terminal 1 to the OUT-C terminal, the coil terminal 2 to the OUT 2 output terminal. When reading fails, the relay operates. The corresponding table of wiring sequence is as follows:

| Relay | Signal terminal |
|-----------------|-----------------|
| Coil terminal 1 | OUT-C |
| Coil terminal 2 | OUT2 |

Note: The total maximum operating current of the output terminal load is 200mA, for other currents, please ask Bilin Intelligence's technical support personnel for help.

If external device is not connected according to the manual instructions or if the connection of external device exceeds the specified limit of load, it may cause damage to the product itself and inability to enjoy warranty and repair services.

3 Installation and Angle Adjustment 3.1 Before installation

Please pay attention to the following items and check the installation conditions:

1.No influence of ambient light;

Please avoid sunlight, other lighting, photoelectric sensors, and other ambient light entering the light receiving area of FV105, otherwise it may cause unstable reading or reading errors.

2.Check if the light source of the barcode reader is obstructed;

If the light source is obstructed, the barcode may not be detected. If there are other devices emitting strong light (direct and reflected light) on site, please set up a light shield to prevent such strong light from damaging the barcode reader or causing unsuccessful code reading.



3.2 Installation of L-shaped metal fixing plate and acrylic insulation sheet



Use the installation bracket to obtain the most suitable reading position. The most common installation method is showed in the figure. The installation position of the L-shaped metal fixing plate can be adjusted according to actual needs (the model showed in the above figure is FV104).

3.3 Angle adjustment



As shown in the figure, adjust the angle of the device to an appropriate angle position, then fix the L-shaped fixing plate firmly with screws.



3.4 FV10X Dimensions

(Unit: mm)

General status



Rotate 90°



Note: The dimension of FV104 is same as that of FV105.



3.5 Reading range data sheet

(Unit: mm)

Typical barcode reading distance

| Barcode specifications | FV | 104 | FV105S | | FV105N | | FV105L | |
|---------------------------|---------|----------|---------|----------|---------|----------|---------|----------|
| | Nearest | Farthest | Nearest | Farthest | Nearest | Farthest | Nearest | Farthest |
| 3.34mil Code 128 | 25 | 121 | 50 | 228 | 50 | 108 | 50 | 337 |
| 5mil Code 128 | 20 | 202 | 50 | 342 | 50 | 162 | 50 | 505 |
| 6.67mil Code 128 | 20 | 270 | 50 | 456 | 50 | 216 | 50 | 674 |
| 10mil Code 128 | 25 | 404 | 50 | 684 | 50 | 324 | 50 | 1010 |
| 15mil Code 128 | 40 | 607 | 50 | 1026 | 50 | 487 | 50 | 1516 |
| 5mil DataMatrix 10-bit | 25 | 110 | 50 | 186 | 50 | 88 | 50 | 275 |
| 6.67mil DataMatrix 10-bit | 25 | 147 | 50 | 248 | 50 | 118 | 50 | 367 |
| 10mil DataMatrix 10-bit | 25 | 220 | 50 | 373 | 50 | 177 | 50 | 551 |
| 15mil DataMatrix 10-bit | 25 | 331 | 50 | 559 | 50 | 265 | 50 | 827 |

Visual field

| Peoding | FV1 | 05S | FV1 | 05N | FV105L | | |
|----------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|--|
| distance | X-axis visual field | Y-axis visual field | X-axis visual field | Y-axis visual field | X-axis visual field | Y-axis visual field | |
| 50 | 24.5 | 18 | 42 | 32 | 17 | 12.8 | |
| 100 | 45 | 34 | 85 | 63 | 29 | 22 | |
| 150 | 65 | 48 | 126 | 93 | 42 | 32 | |
| 200 | 85 | 64 | 167 | 124 | 55 | 42 | |
| 300 | 126 | 94 | 248 | 183 | 81 | 61 | |
| 500 | 208 | 156 | 400 | 300 | 133 | 101 | |
| 1000 | 408 | 305 | 790 | 590 | 268 | 202 | |



| | FV | 104 |
|------------------|--------------|--------------|
| Reading distance | X-axis | Y-axis |
| | visual field | visual field |
| 50 | 33 | 24 |
| 100 | 65 | 48 |
| 150 | 95 | 70 |
| 200 | 130 | 95 |
| 300 | 189 | 108 |
| 400 | 250 | 187 |



4 Connecting FV10X by Configuring Software "infostepper"

"infostepper" Download address: https://www.infoscan-cn.com/download/software

Unzip the file and run "infostepper. exe".

4.1 infostepper Modules introduction

| Infosteppe | er 2.6.6(SD | K:V1.9.9) | | | | | | | | | | | | | | × |
|-------------------|-------------|---------------|-------|------------|--------------|------------|-----------|----------------|--------------------|--------------|---------|-----------------|------------------------|----------------------------------|-----------------------|----|
| Open (| E Save | Multi-Barcode | Edit | -&- 1/0 | Local De | coding 4 | Assistant | ROM Update | 5 Factory Reset | () Reboot | Synchro | nized | ? Help | Options | 1 | |
| \leftrightarrow | \times | | / D | ata | Image | 4 | | | | | | | | | | |
| Connect | Discon | nect | | | | | | | | | ^ De | coding | Informati | ionStatist | ics | |
| | | | | | | | | | | | De | escripti | on | | Result | |
| | 2 | | | | | | | | | | | Statis Setti | tic ON Cle | Aut ear Result ode:default | omatic Sa | ve |
| | | | | | | | | | | | Co | nn and | | | | |
| | | | | | | | | | | | SI | pecify C | haracter 1 Add Spec | Type OxFF | ter | ¥ |
| | | | | | | | | | | | T |)N | | | | × |
| | | | | | | | | | | | Н | ex forma | t input | | | |
| | | | | | | | | | | | 54 | 14F4E | | | | |
| Feedback Inform | mation | | | | | | | | | | - | | Ser. | nd Command | | |
| | | | | | | | | | | | 13 | .me-inte | rval Unit | ims 1 | 100 🚍 | |
| 13 | 3 | | | | | | | | | | | Trigger | On | Continu Trigger | ous Trigg Interval | er |
| | | | Encod | ling: Chir | aese Simplif | ied (GB231 | 2) 🗸 🔳 | Display as Hex | | Clear Text | | Trigger | Off | | 500 🚔 ms | |

| No. | Description |
|-----|---|
| 1 | Normal toolbar |
| 2 | Connecting mode and information display |
| 3 | Feedback information |
| 4 | Setting (settings after connection, see details in Chapter 6) |



4.2 Connecting way of infostepper

4.2.1 RS232 Serial port connecting mode

After connecting the device directly to the computer's Serial port, check "Device Manager" -> "Port". After confirming the port number, click "Connect" when connecting to the software and the "Connect to device" window pops up. Select "Serial Port Settings" and select the corresponding COM number under "Port Number". If the COM number is not displayed, you can click the "Refresh" button to search; The "Baud Rate", "Data Bits", "Stop Bits", etc. are consistent with the device; As shown in below figure:

| Ethernet Serial Po | | |
|-----------------------|--------|-----------|
| Port Number | COM13 | 🖌 Refresh |
| Baud Rate | 115200 | |
| Data Bits | 8 | • |
| Stop Bits | 1 | • |
| Parity Bits | None | • |
| Flow Control | None | • |

Click "Connect to device", after successfully connecting, the device will sound a buzzer prompt, as shown in the figure:

| ECOM13 FV105 Scanning Assistant2. | 5.6 | | | | | | | - | | × |
|-----------------------------------|---------------|------------------------------|----------------|---------------|------------|----------------|--------------------------|---------------------|----------|----|
| Open Save Multi-Barcode | e Edit I/O | Local Decoding Assistant | ROM Update | Factory Reset | Reboot | Synchronized | (3) Help | Options | | 0 |
| $\leftrightarrow X$ | Data | Image Setting | | | | | | | | |
| Connect Disconnect | | | | | | A Decoding] | Informatio | aStatistic | | |
| FV105 V4. 034 | | | | | | Descriptio | n | | Result | |
| Connection: Serial | | | | | | Decoding 1 | imes | | 0 | |
| UM COM13 :116200 | | | | | | Good Read | Times | | 0 | |
| | | | | | | Fail read | Times | | 0 | |
| | | | | | | Read Rate | 1 | | 0 | |
| | | | | | | Munber of | command tri | i gger s | 0 | _ |
| | | | | | | Statist Settin | Clear Clear ng nod | Result e:default | atic Sav | re |
| | | | | | | Command | | | | |
| | | | | | | Specify C | Add Specif | pe OxFF | er | • |
| | | | | | | TON | | | | - |
| | | | | | | Hez format | t input | | | |
| | | | | | | 544F4E | | | | |
| | | | | | | | Send | Connand | | |
| [2024/2/19 13:46:08][All data | | | | | | Time-inter | val Unit : | s 🗐 100 | 0 | |
| synon on real | | | | | | | | Single | | |
| | | | | | | | | | | |
| | | | | | | Trigger | On | Continuou | s Trigge | er |
| | | | | | | | | Trigger I | nterval | |
| | | | | | | Trigger | OFF | 50 | 0 | |
| | Encoding: Chi | nese Simplified (GB2312) 💽 🗌 | Display as Hex | | Clear Text | | | | | |

Note: Display the device model and version information, connection method, Serial port number, baud rate, and other information; The feedback information section displays the connecting date, time and other relevant information; After successful device connection and



interaction, you can click "Image" or "Setting" to set up in details for the bar code reader. (In "Image", due to the limitation of Serial port transmission speed, the "Continuous shooting" function cannot be used.)

4.2.2 Ethernet (TCP/IP) connecting mode

After the device is directly connected to the computer, firstly, modify the IP address parameters of the computer through the following path: "Control Panel" \rightarrow "Network and Internet" \rightarrow "Network Connections" \rightarrow "Ethernet Properties" \rightarrow "TCPIPv4 Properties" \rightarrow "Use the following IP address", so that the IP of computer and device (default 192.168.0.100) are in the same network segment. Click "Connect" to open "Connect to device" window, select "Ethernet Settings", select "Network Card" of this computer, and the current device will be automatically found under this network card as follows:



After clicking "Connect to device" and successfully connecting, the device sounds a buzzer prompt, as shown in the figure:



Note: After the device is successfully connected, the device model, version information, connecting mode, IP address and port number information will be displayed; The feedback information section displays the date, time and other related information of the connection; After



successful connection and interaction, you can click "Image" or "Setting" to set up in details for the barcode reader.

5 Quick Set FV105

FV105 is an autofocus device that provides quick settings. As shown in the figure below, place the bar code sample that needs to be read within the field of view. Press and hold the button for 10 seconds to perform automatic focusing first. After successful automatic focusing, enter automatic parameter adjustment (FV104 is a manual focusing device, pressing and holding of the button for 10 seconds only can perform automatic parameter adjustment). There is a buzzer and indicator light indicating the success or failure of autofocus and automatic parameter adjustment. The success or failure of automatic parameter adjustment is closely related to the quality of the barcode being read. When the barcode quality is good, the success rate of automatic parameter adjustment is high and the automatic parameter adjustment process is fast.



Note: In "Image" interface of the software "infostepper", the automatic focusing and automatic parameter tuning can also be achieved, as shown in Chapter 6.



6 Set FV10X in Detail by Configuring Software "infostepper"

6.1 How to check the image

1.Select "Image";

| Data | Image | Setting | |
|------|-------|---------|--|
| | | | |
| | | | |
| | | | |

2.Method 1: Click "Image snap";

| 0 | Image snap | Continuous shooting |
|----------|------------|-----------------------------------|
| | Autofocus | Automatic parameter adjustment |
| atest in | nage | - Get |

3.On the "Image" main interface, you can check the captured image;

| Data | Image | Setting | |
|------------------|---------------------|----------------------|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | 828 | |
| | | 82% | |
| | | | |
| | 16 | 67mil 1012 D | |
| | | | |
| | | | |
| | | | |
| View image detai | ls le) spin none | -O Display Scale 25% | - |

The captured image in the example is severely blurred, which affects decoding. It is necessary to adjust the focusing parameters of the reader. The display ratio can be adjusted according to needs.

4.Method 2: Click "Continuous shooting" to check the captured images in real-time (recommended).

| | Imagin | gTonitor |
|-------|--------------|-----------------------------------|
| | O Image snap | Continuous shooting |
| | Autofocus | Automatic parameter adjustment |
| Lates | st image | Get |
| Use | Settings1 | - |



Note: The "Continuous shooting" function only supports Ethernet connection.

6.2 How to set focusing to make the image clear

FV105:

1.Method 1: Select "Imaging Monitor" and click "Autofocus";



2. "Autofocus" dialog box pops up;

| Autofocus | |
|-----------|--|
| 212 | Autofocus is in progress, please wait |
| 11 | Cancel |

3.After successful autofocus, a dialog box pops up, select the "Recommended parameters", click "OK"; There may be multiple recommended parameters for choice, which can be selected from the drop-down menu;

| Please select focus dista | ince param | eter | > |
|---|-------------|------------|-------|
| Recommended parameters | 29 | - | OK |
| | 29 | | |
| Note: the larger the ve | 30 | | the |
| focus distance is: the closer the focus distan | smaller the | e value is | , the |

4.After successful autofocus, we automatically enter "Continuous shooting" mode. As shown in below image, the barcode area of the image is blurry before autofocus. After successful autofocus, the barcode area of the image is clear, and a green border appears around the barcode, indicating that the barcode can be decoded normally;



Before Autofocus



After Autofocus



5.Method 2: Click "Continuous shooting". In "Image Settings", modify "Focus Distance" to check and adjust the image clarity in real time.

| Focus Distance 🗐 👘 👘 | | OK |
|----------------------|--|----|
|----------------------|--|----|

Note: The above operation can achieve the setting of image focusing clarity for FV105 barcode reader. If the barcode reading environment changes, please perform focusing again.

FV104:

1.Method 1: Select "Imaging Monitor" and click "Continuous shooting";



2.The current shot images are displayed in real time. If the image is blurred, use the attached hex wrench to adjust the focus tuning knob and check the real-time focusing status from the image until it is clear;



Note: The above operations can achieve the setting of image focusing clarity for barcode reader FV104. If the barcode reading environment changes, please perform focusing again.



6.3 How to set image parameters

1.Select "Continuous shooting" and check "Image Settings";



2.Method 1: Adjust the parameters of "Lighting intensity", "Exposure Time", "Gain" and check the barcode image changes in real time, as the picture shown below. When the lighting intensity is set to 0, the image is dark, when the lighting intensity is set to 2, the image becomes significantly brighter and the sample barcode appears with a green border, which means the barcode can be successfully decoded;



Lighting intensity is set to 0



Lighting intensity is set to 2

3.Adjust "Exposure Time", check the image changes in real time, the brightness of the image will change significantly, and the contrast of the image will also change significantly. In static code reading applications, the exposure time has a relatively small impact on the success rate of barcode reading; In dynamic reading applications, the exposure time has a significant impact on the success rate of reading. The "Exposure Time" parameter can be calculated based on barcode size and other parameters;

4.Adjust "Gain", check the changes of the image in real time, the brightness and contrast of the image will change significantly;

5. The reading application of special barcodes requires adjusting the filtering parameters such as contrast.



| ImageSettings | ImageSettings |
|--|---|
| Decoding Window Mode 👘 OFF 🔲 Mouse Selection | Filter par ameter Settings |
| left 0 ★ right 1279 ★ 0K top 0 ★ bottom 959 ★ Cancel | Filter processing 1 Off OK |
| Lighting intensity Exposure Time | Filter processing 2 Processing |
| Gain enhanced contrast off OK | Filter processing 3 Narpening OK |
| Focus Distance | Filter processing 4 off OK |
| Initial gray value 0 V OK | Process 4 Parameters 3 |
| Binning OFF 🗨 OK | Kestore Default Setting |

Note: The confirmation and adjustment of image parameters are according to the specific feature of the barcode to be read. The general adjustment method is an adjustment combination of "lighting intensity", "exposure time", "gain" and "filter parameter settings", in order to meet different barcode reading scenarios.

6.4 How to set up Serial port connections according to needs

Only standard RS232 can be supported by model FV10X.

| So. | Iten | Value | State | Communication Settings | Baud Rate |
|-----|---|--|-----------------|---|--|
| | | | | I/O Settings Edit Settings Debug Setting Output Rule Settings | 115200 • • • Farity None • • Data bits/Stop bit 8 Data bits 1 Stop • • |
| | Delate t Bownload C Generate confi | he row onfiguration guration burce | - Ia | Decode Settings Imaging Settings 1 Imaging Settings 2 Imaging Settings 3 | Setverk Mode OFF Device Address (0-9) 0 • TP Address |
| 8 | Open Device Configuration Load different configurations Save ourrant device configuration to local | hill | | Imaging Settings 4 Automatic parameter adjust Code Type OCR Settings | 122.168.0.100 1 122.168.0.100 1 125.168.1 1 555.255.255.0 1 Gatway Address 0.0.0 0.0.0 1 205 Address 1 0.0.0 1 |
| Sel | octive configuration | ere Bar | rode generation | | TCP Fort Number (1024-65535) 4096 * Industrial Frotocol NUL • |

1.Select "Setting" and select "Communication Settings";

2."Baud Rate", "Parity" and "Data bits/Stop bit" can all be set according to needs. Taking baud rate setting as an example, set the baud rate to 9600, select "9600", click " $\sqrt{}$ " button, then the modified item will be displayed in the setting

list;

| Communication Settings | Baud Rate |
|---------------------------|-----------------------|
| I/O Settings | 115200 |
| Edit Settings | 300 600 |
| Debug Setting | 1200 |
| Output Rule Settings | 4800 |
| Presentation Settings | 19200 |
| Decode Settings | 38400 |
| Imaging Settings 1 | 57600 |
| Imaging Settings 2 | (0-9) 0 A |
| Imaging Settings 3 | |
| Imaging Settings 4 | 192 . 168 . 0 . 100 I |
| Automatic parameter adjus | Subnet Mask |
| Code Type | 255.255.255.0 I |
| | |



3.Click "Download Configuration". If the setting is successful, the buzzer of the reader will provide feedback, the setting status in the list displays "success", indicating that the baud rate has been set successfully;

| No. | Item | Value | State |
|-----|-----------|-------|---------|
| 1 | Baud Rate | 9600 | success |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

4.Likewise, select "Parity" according to needs, click " \checkmark " button and the selected Parity will appear in the setting list. Click "Download Configuration" to proceed;

| Communication Settings | Baud Rate |
|---------------------------|-------------------------|
| I/O Settings | 115200 |
| Edit Settings | Parity |
| Debug Setting | None 🗸 |
| Output Rule Settings | Odd |
| Presentation Settings | Even |
| Decode Settings | Network Mode |
| Imaging Settings 1 | |
| Imaging Settings 2 | Device Address |
| Imaging Settings 3 | |
| Imaging Settings 4 | 192.168.0.100 T |
| Automatic parameter adjus | Subnet Mask |
| Code Type | 255 . 255 . 255 . 0 I 🗸 |

5.Likewise, select "Data bits/Stop bit" according to needs, click " \checkmark ", then the selected type of Data bits/Stop bit will appear in the setting list. Click "Download Configuration" to proceed.

| Communication Settings | Baud Rate |
|--------------------------|------------------------|
| I/O Settings | 115200 |
| Edit Settings | Parity |
| Debug Setting | None 💽 ✔ |
| Output Rule Settings | Data bits/Stop bit |
| Presentation Settings | 8 Data bits 1 Stop + |
| Decode Settings | 7 Data bits 2 Stop bit |
| Imaging Settings 1 | 8 Data bits 1 Stop bit |
| Imaging Settings 2 | Device Address |
| Imaging Settings 3 | |
| Imaging Settings 4 | 192 168 0 100 T |
| Automatic parameter adju | IS Subact Nucl |
| Code Type | 255 255 255 0 T |
| | |

Note: If the "Data bits/Stop bit" is set to a non-default state, then "infostepper" is incapable of connecting with the barcode reader.



6.5 How to set up Ethernet connection

according to needs

1.Select "Setting", select "Communication Settings";



2. "IP Address", "Subnet Mask", "Gateway Address", "DNS Address" and "TCP Port Number" can be set according to needs. Taking IP Address as an example, the IP address can be entered directly from the keyboard according to needs;

| Baud Rate | 1 |
|------------------------|---|
| 115200 | |
| Parity | |
| None 💽 💉 | |
| Data bits/Stop bit | |
| 8 Data bits 1 Stop 💽 ✔ | |
| Network Mode | |
| OFF | |
| Device Address | |
| (0-9) 0 | |
| IP Address | |
| 192 . 188 . 0 . 100 | |
| Subnet Mask | 1 |
| | |
| 0.0.0.0 | |
| DWC Allower | |
| 0.0.0.0 | |
| TCP Port Humber | |
| (1024-65535) 4096 | |
| Industrial Protocol | |
| NULL | |
| andient date langth | |
| | Bud Bare 11500 • • ♥ 11500 • • ♥ Parity None • • ♥ Data bit/Step bit 0 Data bit/Step • • ♥ Hetverk Mode 0 FF Derice Address (0-0) 0 • IP Address 100. 100 X ♥ Submet Wak 255. 255. 255. 0 X ♥ Gateway Address 0. 0. 0. 0 X ♥ ICF Pert Munher (1024-0555) 4006 • Industrial Proteel WILL • ♥ ♥ |

3.After inputting the IP address, click " $\sqrt{}$ " button, then the set IP address will be displayed in the setting list. Click "Download Configuration" button and the reader buzzer will prompt for setting success. The "State" of Setting shows "success", indicating the setting is completed;

| / | Data Ima | e Setting | |
|-----|------------|---------------------|------------------|
| No. | Item | Value | e State |
| 1 | IP Address | 192.1 | 68.0.102 success |
| | | | |
| | | | |
| | | | |
| | | Delete the row | |
| | | Download Configurat | ion |
| | Gene | erate configuration | barcode |



4. "Subnet Mask", "Gateway Address", "DNS Address" and "TCP Port Number" can be set as needed according to the setting method of "IP Address".

6.6 How to set the output signal level and the continuous pulse width of the level

When the output common terminal OUT-C is empty:

1.The barcode reader FV10X provides two specifications of output level signal settings. Select "Setting", then select "I/O Settings". If "24V internal pull-up" is set to "On", the output signal level is 24V;

| Iten | Value | State | Communication Settings | 24V internal pull-up |
|--|--|---|--|--|
| 24V internal pull-up Dalet D | On On On On One of the row of the | e e e e e e e e e e e e e e e e e e e | 1/0 Settines Edit Settings Debug Setting Output Rule Settings Presentation Settings Decode Settings Imaging Settings 1 Imaging Settings 2 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjus Code Type OCR Settings | 00 00f 00f 0a 0a 0a 0a 0a 0a 0a 0a 0b 0a 0b 0a 0b 0a 0b 0a 0b 0b 0b 0b 0c 0c |

2.I/O output logic, OUT1-OUT4 output level signals are all 24V. The default logic uses OUT1 and OUT2, so the default logic can only detect that OUT1 and OUT2 are 24V.

(For the hardware connection of output logic, please refer to Chapter 2 "Connection and Wiring")

3.The default IO output logic is that OUT1 indicates successful reading, OUT2 indicates failed reading. The output level signal pulse width for both successful and failed reading is 50ms, and the signal pulse width can be set according to needs, with a maximum of 10000ms. After completing the settings according to needs, click "Download Configuration".

| Be Tree Value State 1 20% internal pall-up On Success 2 Geed Back Hake width DODes Success 3 Failed Back Pales width DODes Success 3 Dealste the row The second Settings Dealste Walk 3 Dealste the row The second Settings Dealste Walk 3 Dealste the row The second Settings Dealste Walk 3 Dealste the row The second Settings Dealste Walk 3 Dealste the row The second Settings Dealste Walk 3 Dealste the row The second Settings Dealste Walk 3 Dealste the row The second Settings Dealste Walk 4 Dealste Marker Walk Dealste Walk Dealste Walk 5 Second Settings Second Settings Dealste Walk 5 Second Settings Second Settings Dealste Walk 5 Second Settings Second Settings Dealste Walk 6 <t< th=""><th>/</th><th>Data Inage Se</th><th>tting</th><th></th><th></th><th></th></t<> | / | Data Inage Se | tting | | | |
|---|-----------------|--|--|---------------------------------------|--|--|
| Con Discourse in the second | No. 1 2 3 | Itee SW internal pull-up Good teast fulles with Failed Reed False width Failed Reed False width Conference Conference Conference Conference Swe overeat device configuration Lead different configuration Lead different configuration Lead different configuration Lead different configuration Swe overeat device configuration Swe overeat device configuration Confi | Value On Income income income income income | State Ducess Success Success | Communication Settings 1/0 Settings Edit Settings Debug Setting Output Rule Settings Presentation Settings Decode Settings 1 Imaging Settings 1 Imaging Settings 3 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjus Code Type OCR Settings | 24V internal pull-up By 05V internal pull-up 06 06 Deserr Deserr De |



Note: OUT-C output common terminal is empty, set pull-up to be effective, OUT1-OUT4 are only electrical signals without load capacity; The OUT-C output common terminal is connected to VCC, and the pull-up is set to invalid. The initial voltage of OUT1-OUT4 is the voltage corresponding to VCC, and with a certain load capacity.

6.7 How to set the minimum effective triggering time

1.For barcode reader FV10X, the effectiveness of external trigger signals (such as photoelectric sensors) can be set according to needs. Select "Setting", select "I/O Settings", the default "Minimum Trigger Time" is 5ms, which can be set according to needs;

| | Data Tuste De | rung | | | 10.00 E 10 |
|-----|---|-------------|---------------------|--|---|
| ło. | Iten | Value | State | Communication Settings | 24V internal pull-up |
| | Minimum Trigger Time | 10m s | SUCCESS | I/O Settings | 110 |
| | Delete ti | LE TON | | Edit Settings Debug Setting Output Rule Settings Presentation Settings Decode Settings Imaging Settings 1 Imaging Settings 2 | 57 internal pull-up 0 6ff Deeper Da Laser Aimer On Good Read Pulse width |
| | Bownload Co | nfiguration | | Tanalas Cattings 2 | (0-10000) 50 🛖 ns |
| 8 | Open Device Cenfiguration Load different configurations Save current device configuration to local | 11 | | Imaging Settings 4 Automatic parameter adju Code Type OCR Settings | Traine ass ruis with (0-1000) 50 m as Staine Trigger Time (1-200) 10 m as Burode scoring alare threshold (0-100) 0 m Default L/O Settings Deply |
| Sel | otive configuration Open Sav | Bard | • ode generation | | |

2.Click "Download Configuration" to complete the settings.

6.8 How to set the functions of buzzer and laser aiming when barcode reading is successful or failed

1. The barcode reader FV10X's buzzer (prompt for successful or failed barcode reading) and laser aiming function default to "On" state;





2.When the barcode reader FV10X succeeds or fails to read the barcode, the buzzer will prompt. The "Laser Aimer" function can be set to "Off" state according to needs. Click "Download Configuration" to complete the settings.

| No. 1 2 | Data Inage Item Beeper Laser Aimer | Value Off Off | State success success | Communication Settings 1/0 Settings Belit Setting Debug Setting Output Rule Settings Presentation Settings | |
|---------------|---|--|-------------------------------|--|---|
| | Delete Bernaus Genarate can Open Derice Configuration Load different configuration Save current device configuration to local | r the row I Configuration 1 (figuration barood Full | • | Decode Settings Imaging Settings 1 Imaging Settings 2 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjus Code Type OCR Settings Decode Settings Mathematic Parameter adjus (1-20) 5 Bareade scering alars threshold (0-1000) 0 Befwalt L/O Settings Mathematic Parameter (1-20) 0 Bareade scering alars threshold (0-100) 0 Befwalt L/O Settings Mathematic Parameter (1-20) 0 Bareade Settings Mathematic P | a |
| Sel | Open | Save Bare | v ode generation Rename | | |

6.9 How to set trigger command and trigger cancel command for the reader

1.The barcode reader FV10X can respond to commands to control barcode reading. The default trigger command (hex) of the reader is "544F4E", the trigger cancel command (hex) is "544F4646", which can be checked in "Edit Settings";



2.Set trigger commands, for example, setting "LON" as the trigger command. Select the "Assistant" tool, entering "LON ", then "LON" can be automatically converted to the corresponding hexadecimal "4C4F4E";



| :0 | Ethernet F | V105 Scar | nning Assistant2.6 | .8 | | | | | | | | | - | × |
|----|------------|-----------|--------------------|------|---|---|-----------------------|------------|---------------|--------------|--------------|-----------|---------|---|
| | Open | Save | Multi-Barcode | Edit | - 1/0 | Local Decoding | Assistant | ROM Update | Factory Reset | () Reboot | Synchronized | ? Help | Options | |
| | | | | | Transform Charaoter Hex Type data Cr First after | ation Assistant LDM 4C4F4E Copy Nex Tex MUL eate BarCode Send(hex): if rece | eg : OCR Set ASCII | nd success | | | | | | |

3.Click "Copy Hex Text", then paste it into the "Enable trigger command", click " $\sqrt{}$ " and check it in the Setting list, then click "Download Configuration" to complete the settings;



4.The "Disable trigger command" can be set as needed, according to the setting method of "Enable trigger command" .

6.10 How to set the feedback of reading failure

1.The barcode reader FV10X can output the feedback characters for failed reading. The default "No Read feedback" characters (the hexadecimal characters for failed reading feedback) are "4E52", and the switch of "No Read" (reading failure feedback) defaults to "Off" state. You can check it in "Edit Settings";





2.For example, set the switch of "No Read" to "On" state, set the "No Read feedback" to "NoRead". Use "Assistant" to convert "NoRead" to hexadecimal, paste the hexadecimal content into the "No Read feedback", click " $\sqrt{$ ". Check the Setting list, click "Download Configuration", the setup is completed.

| | lten | Value | State | Communication Settings | Internessage characters |
|-----|---|--------------------------|---------|--|--|
| 1 | No Read | On | success | I/O Settings | ADDO X ODOA |
| 2 | No Read feedback | NoRead | SUCCESS | Edit Settings | End characters Ox ODOC |
| | | | | Output Rule Settings | Auto-wrap |
| | | | | Decode Settings | Enable trigger command Ox 544F4E |
| | Delete Bownload | the row Configuration | • | Imaging Settings 1 Imaging Settings 2 | Disable trigger command Ox 544F4646 |
| | Generate conf | iguration barcod | ė | Imaging Settings 3 | No Read |
| | Open Device Configuration Load different configuations | Null | | Imaging Settings 4 Automatic parameter adjus Code Type OCR Settings | On No Read feedback Ox 4269752656164 |
| 8 | Save current device configuration to local | | | | Default Edit Settings |
| Sel | ective configuration | | | | |
| | | | - | | |

6.11 How to set up shielding for "Same Barcode

Reread"

1.The barcode reader FV10X's "Same Barcode reread disabled" is "Off" by default, the "Reread delay" is set to "0" seconds by default; Check the settings in "Output Rule Settings";

| _ | Data | Inage | Setting | | | |
|------------|---|---|---|------------------------------|---|---|
| ¥o. | Iten | | Value | State | Communication Settings I/O Settings Edit Settings Debug Setting Output Rule Settings Presentation Settings Death Setting | Same Jurcode reread disabled off Baread dalay (0-10) 0 a s symbologies wetching All w format: |
| | | Del Downl Generate | ate the row and Configuration configuration burcode | | Langing Settings 1 Langing Settings 2 Langing Settings 3 Langing Settings 4 Automatic parameter adjust Code Type OCR Settings | 0, 15-00) specified character match Close |
| 8 | Con Lord di config Save co configur | m Device figuration fforent extions arcent device ation to loc | 9411 4 | | | Specified abarature (has) OX Starting position of specified abareters (1-555) I the Default Output Bale Settings Apply |
| Sel Con | ective co Open figuratio | nfiguration | Sare Bares | * de generation Benuer | ٤ | |

2.For example, the "Same Barcode reread disabled" is set to "On", the "Reread delay" is set to "5";





3.Setting the "Reread delay" to 5 seconds means that the function of "Same Barcode reread disabled" maintains 5 seconds; 0s means continuous shielding. When the current barcode reading is successful, the data is output. If the code symbology and data content of the subsequent barcode are consistent with that of the current successfully read barcode, the "Same Barcode reread disabled" continues to be maintained; If the subsequent code symbology or data is different from that of the current successfully read barcode, the "Same Barcode, the "

6.12 How to set barcode filtering criteria

1.If it is necessary to filter the output barcode, FV10X provides barcode filtering function, which can be set in "Symbologies matching", "Number of characters", "Specified characters", etc., so as to achieve the purpose of filtering;



2.For example, the output code symbology you need is QR code, 10 characters, the settings are as follows:

| | | Faller | State | I/O Settings Edit Settings Debug Setting | 0ff Reread delay (0-10) 0 * s |
|-----------------|--|--|-------|---|---|
| 2 2 Selec | Delete the Deralesed Con Generate configu Open Derice Configuration Lead different configurations See current derice onfiguration to local tive configuration | row Elguration ation barood 1 | | Cutput Rule Settings Presentation Settings Decode Settings Imaging Settings 1 Imaging Settings 2 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjust Code Type OCR Settings | Dynbiogras matching All All All All All All All All |



| I | ten | Value | State | Communication Settings | Same Barcode reread disabled |
|---------|--|----------------------------------|---------------------|---|--|
| S | umbologies matching umber of characters (F | QR 10 | SUCCESS | I/O Settings Edit Settings Debug Setting Output Rule Settings Presentation Settings Decode Settings | 0ff Reread delay (0-10) 0 x s Symbologies matching 98 x V Rubber of characters (Format: 9: 15-00) |
| L. | Delete the Download Confi Generate configur Open Device Configuration and different configurations we current dovis nfiguration to local | row iguration ation barcod | - | Imaging Settings I Imaging Settings 2 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjust Code Type OCR Settings | U genitied character exch Cless w W Specified characters (her) OX W Starting position of specified characters 1 m Defealt Output Bule Settings Mapply |
| Selecti | ve configuration Open Save | Bare | • ode generation | | |

3. "Specified character match" can be set for filtering.

6.13 How to set up presentation mode

1.Barcode reader FV10X has a certain ability of presentation reading. The presentation mode set in "Presentation trigger" defaults to "Off" state, as follows;



2.Set "Presentation trigger" to "On". The "Illumination intensity", "Sense Pause Time", "Gray scale sensitivity", "Frame sensitivity", "Target Speed" etc., can be set;

| No. | Item Presentation trigger | Value On | State | Communication Settings | Presentation trigger |
|-----|--|--|------------------------------|--|--|
| 2 | Illumination intensity Gray scale sensitivity | 3 Medium | Success | Edit Settings Debug Setting Output Rule Settings Presentation Settings Decode Settings | 111umination intensity (0-3) 3 * Sense Fause Time (0-100) 10 * Gray scale sensitivity Walken |
| | Delete th Bornload Cor Generate config Open Durice Configuration Load distring Save current derice configuration to local | row figuration ration barcode 1 | | Imaging Settings 1 Imaging Settings 2 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjus Code Type OCR Settings | Prese sensitivity Kigh • • Target Speed Lov • • Default Presentation Settings Reply |
| Sel | ective configuration Open Save figuration name | Bardo | + de generation Rename | | |



3.Reader FV10X' s presentation mode is suitable for specific environments.

6.14 How to set the filtering conditions for high-speed and high-frequency dynamic reading in enhanced mode

1.The default decoding trigger mode of barcode reader FV10X is normal mode, which can meet most dynamic reading applications in the market. For high-speed and high-frequency dynamic reading applications, the "Enhanced Mode" can be selected. Check "Decode Settings" - "Trigger Mode", select "Enhanced Mode", click " $\sqrt{}$ " button, then click "Download Configuration" to open the enhanced mode;



2.The "Maximum quantity of images taken in Enhanced Mode" is 10 by default, ranging from 1 to 30, which can be adjusted according to actual application needs; The default "Snap interval of Enhanced Mode" is 0, with values ranging from 0 to 50, which can be adjusted according to actual needs;

| Iten Maximum quantity of ima | Value 5 | State | Communication Settings | Trigger Mode Enhanced Mode |
|--|---|-------------|---|--|
| Sag interval of Enhanc Balets the Bandrad Canfi Generate configure Configuration Configuration Save current derice configuration Seve current derice configuration lestive configuration Open Save | or puration tion baroode Barco | vereas v | Edit Settings Debug Setting Output Rule Settings Presentation Settings Imaging Settings 1 Imaging Settings 2 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjus Code Type OCR Settings | Marine descling time (0-1000) 5000 g ms 1000 1000 1000 1000 200 g ms 100 ms 100 ms 200 g ms 100 ms 00 ms 00 f 00 ms 00 f 0 f 5 ms 10 ms 0 f 0 f 0 ms 0 f 0 ms 0 priot reading optimization 0 f 0 priot reading optimization 0 f |



6.15 How to set filtering conditions for continuous triggering mode

1.In "Trigger Mode", "Continuous Mode" can be selected;



2.The trigger types of continuous triggering mode includ trigger" and "Power On", the default is I/O trigger;

include "I/O

| Iten | Value | State | Communication Settings | (20-2000) | 200 🚔 ns | |
|--|-----------------------------|--------------|---|--|--|--|
| Bulets the r Bealets the r Bealets Configure Bealets Configure Configuration Configuration Configuration Configuration Sere current derice configuration to local elective configuration Copen Sere | ov gwatin tien bareda | Estevation (| 1/0 Settings Edit Settings Debug Settings Output Rule Settings Presentation Settings Mecode Settings 1 Imaging Settings 2 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjus Code Type OCR Settings | Dot autrix cod Off Saull Breedi Off Defaced Breed Defaced Bre | e optimization de reeding ng optimizatio ding optimizatio QR reeding ty of inages tak Mode 10 m of Enhanced Mode c Enhanced Mode c No. 1 No. 1 No. | |

3.Snap interval time in continuous trigger mode

The default value of "Snap interval of Continuous Mode" is 0*100ms, you can set the value ranging from 1 to 50 according to the actual needs.

| o. Item | Value | State | Communication Settings | (20-2000) 200 💼 ns |
|--|-----------------------------------|--|---|---|
| Delet Sap interval of Can Delet Dentas Generate of Configuration Land different configuration to Local Stree courses device configuration to Local Selective configuration | is the row is the row Save Barco | success success e le generation | I/O Settings Edit Settings Debug Setting Output Rule Settings Presentation Settings Imaging Settings 1 Imaging Settings 2 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjus Code Type OCR Settings | bet matrix code optimization off Zowrate haroole reading off Sall Wrading optimization off Defeed Mrawing optimization NO quiet rane QR reading On NO quiet rane QR reading On No quiet rane QR reading On Taximum quantity of inages tak en in Enhanced Mode (0-50) 10 to Sang interval of Enhanced Mode (0-50) 0 to Enhanced Mode 10 trigger |



6.16 How to set filtering conditions for

automatic parameter adjustment

1.The maximum exposure time for automatic parameter adjustment: Controls the maximum amount of light input. Check the setting of "Maximum exposure of auto parameter adjustment", the default value is 50 and the optional value range is 1-200, which can be set according to actual application needs;



2.Setting of "Speed of auto parameter adjustment" : The default is "Auto" . Automatic, high-speed, medium-speed or low-speed can be selected.

| | Data Image Set | ting | | | |
|-----|---|---|-------------------|--|--|
| No. | Iten Delete th Dornload Cen Generate configuration Load different configuration Save current davies configuration Open Save figuration Save | Yalue row ii puration ration barrood | e vode generation | Communication Settings I/O Settings Edit Settings Debug Setting Output Rule Settings Decode Settings Imaging Settings 1 Imaging Settings 2 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjust Code Type OCR Settings | Heims sopure of suto paras eter adjustment (1-200) 50 * Speed of suto parameter adjust ment Anto High Heims Def Off Defull Attentic parameter ad justment Settings Apply |



6.17 How to set the code symbology filtering criteria for the tested barcode

1. "Setting" - "Code Type" ;



2. "Code Type" settings:

"All On": Tick in the check box - Click "Download Configuration" - all code symbologies are on;

"All Off" : Tick in the check box - Click "Download Configuration" - all code symbologies are off;

Each code symbology can be turned on or off separately, with corresponding switch button;

Non-essential code symbology can be turned off in application, so as to improve the decoding efficiency.

| | Data Inage S | etting | | | | | |
|-------------------------|---|--|--|---|--|-------|---|
| No. 1 2 3 4 | Iten ATEC Code 120 Code 30 Code 30 Code 30 Denked Benked Construct confi Construct configuration Load different configuration Sure courant during | Value Off Off Off Off Off Off Off Selfguration survive survive Sull | State Success Success Success | Communication Settings I/O Settings Edit Settings Debug Setting Output Rule Settings Presentation Settings Imaging Settings 1 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjus Gode Type OCR Settings | All 0n All 0ff All 0ff Code 120 0ff Code 20 0ff Code 90 0ff Code 90 0ff Code 90 0ff Code 90 0ff Code 30 0ff Code 10 0ff Code 10 0fff Code 10 0ff Code 10 0fff Code 10 0ff Code 10 0ff C | Apply | Â |
| Sel Con | ective configuration Open S figuration name S | ave Baro | • ode generation Rename | < >> | On MICROPDF Off INT25 | | |



6.18 How to set to check images of

Successful/Failed decoding

1.Enter "Setting" - "Debug Setting", open "Save no read images" and "Save good read image";

| Q. | Item | Value | State | Communication Settings | Display Decoding time |
|-----|---|--|--------------------|--|---|
| | Save no read images Save good read image | 0n 0n | EUCCESS EUCCESS | I/O Settings Edit Settings | Off Display symbologies Off |
| | | | | Output Rule Settings Presentation Settings Decode Settings | Display Barcode Fosition Off Display barcode score Off |
| | Delete th Download Cor Generate config | e row afiguration aration barcod | Ie | Imaging Settings 1 Imaging Settings 2 Imaging Settings 3 Imaging Settings 4 | Save no read images On Save good read image On |
| 2 | Configuration Load different configuations Save current device | | | Code Type OCR Settings | FTF upload good read images Off FTF upload no read images Off FTF server IP |
| •1• | ective configuration | | | | 192.168.0.101 1 V FTP server Fort 21 |

2.Enter "Image" interface - "Get" - Check "Latest image", "Decoded success image" or "Decode failed image set";

"Latest image" : The most recent images captured by the barcode reader (decoding success/failure);

"Decoded success image" : The most recent image with successful decoding;

"Decode failed image set" : The most recent images of failed decoding.





6.19 How to generate setting codes with setting

items

1.After "Download Configuration" successfully, select the setting items as needed, click "Generate configuration barcode" to generate the setting code;



2.According to the prompts, you can paste it into a Word file or check it in Image interface (see the setting code below in "Image" interface), then use the barcode reader to scan the setting code to complete the parameters settings.





6.20 Saving and opening configuration files of

setting items

1.Saving the configuration file to local: In Setting interface, click on "Save current device configuration to local";



2.Opening a configuration files: Click "Open Device Configuration" and select the corresponding configuration file;



3.Select "Load different configurations", then you can check the setting items in the Setting list. Click "Download Configuration" to complete the quick import of local configurations.





6.21 How to set heartbeat string

1.In "Communication Settings", set "TCP Server Send Heartbeat String" to "On", then this function is activated; After 20 seconds, the string will be sent at default interval time;



2."TCP Server Heartbeat Interval (ms)" and "TCP Server Heartbeat String" can be set according to needs. The heartbeat string can be set to a maximum of 6 characters;

| No. 1 2 2 | Iten It Server Karthat In It? Server Karthat St Polets the Pended Caf Generate cafige Configution Lead different cafigation Sate Server at derice cafigation to lead | Value 3000 AAAAAA portion purstion tion barood | State Barcess Docess | Communication Settings 1/O Settings Edit Settings Output Rule Settings Presentation Settings Precede Settings Imaging Settings 1 Imaging Settings 3 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjust Code Type OCR Settings | TC? Fort Hasher (1024-65555) 4096 MUL • • • FUL • • Fortistical Frotecol WUL • Fortistical Frotecol Have Ox 60762013076 TC? Server FOR Fort Hasher (1024-65555) 4095 TC? Server Stad Haartbat Stri And Cr Server Kartbat Entervel (ac) (1000-4000) 2000 |
|-----------------|---|---|----------------------------|---|--|
| | Open Save | Baro | • de generation | | TCP Server Heartbeat String Ox 41414141414 Default Communication Settings |

Note: The heartbeat string function is only used to detect whether the device is connected. If not necessary, simply maintain the default state ("Off" state).



6.22 How to set Client mode

1.In "Communication Settings", set "TCP Server" to "On" to enable this function; (This function requires the Server to disable the firewall)



2.The "TCP Server IP Address" needs to be set as the IP address of the PC (the PC receives data);



3. "TCP Server Port Number" can be set as needed. The parameter setting range is 1024 to 65535.

| o. Item TCP Server Port Number | Value 1024 | State success | Communication Settings I/O Settings Edit Settings Debug Setting Output Rule Settings Presentation Settings Decode Settings | TCP Port Number (1024-65555) 4096 = Null w w FOLL w w profinet data length 500 w w Industrial Protocol Nume |
|---|--|-------------------------------|--|--|
| Dalate th Evenland Co Generate config Den Davies Configuration Lasd different configuration Particular Serve current device | e ros nfiguration aration barcod | | Imaging Settings 1 Imaging Settings 2 Imaging Settings 3 Automatic parameter adjust Code Type OCR Settings | 0x worksuituri 0n 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |
| Selective configuration Open Sav Configuration name | e Baro | * ode generation Rename | < >>> | Icr Sarver nearbeat Interval (non-60000) 1000 TCP Server Hearbeat String Ox 2003 Default Communication Settings Efault Communication Settings |



6.23 How to use automatic parameter tuning to

adjust image parameters

1.Connect to infostepper via Ethernet and select "Image";

2.Click "Continuous shooting" to enter real-time shooting mode;

| | Imagin | gNonitor |
|-----|------------|-----------------------------------|
| | Image snap | Continuous shooting |
| | Autofocus | Automatic parameter adjustment |
| ate | est image | - Get |
| lse | Settings1 | |

3.Check the real-time images captured; Place the barcode at the center of the Image interface, ensuring the barcode is in reader's field of view; Perform the focusing operation. For specific focusing operations, you can refer to the content in Chapter 6.2;

4.After focusing, check the image and ensure it is in a relatively clear status; Perform "Stop continuous shooting";

| Image snap | continuous s |
|-------------|-----------------------------------|
| Autofocus | Automatic parameter adjustment |
| atest image | Get |

5.Perform "Automatic parameter adjustment". During the automatic parameter adjustment process, you can find the image is changing in real-time until the automatic parameter adjustment is completed. If the automatic parameter adjustment is successful, it will automatically enter the "Continuous shooting" which is a real-time image checking mode. A green or red border will appear around the barcode which has been successfully read; If the automatic parameter adjustment fails, you can find the failure prompt in feedback information window;





6.During the automatic parameter adjustment process, the automatic parameter tuning operation can be paused at any time as needed; This function meets most of the barcode reading needs; For barcodes in special states, it is recommended to manually adjust the image parameters according to actual situation.

7 Settings for Special Applications

7.1 How to setup multi-barcode mode and multi-barcode reading rules

1.The "Multi-Barcodes Mode" of reader FV10X can be selected in Setting - Decode Settings - Trigger Mode;



2.Multiple barcode interval characters and end characters can be set in "Setting" - "Edit Settings" - "Intermessage characters" and "End characters" . The default "Intermessage characters" (hex) is 0D0A, the default "End characters" (hex) is 0D0C;

| / | Data Inage | Setting | | | |
|------|---|---|----------------|---|--|
| No. | Item Dalet Denics Generate co Open Device Configuration Load different configurations Save courrent device configuration to local ctive configuration Open | Value Value te the row d Configuration friguration friguration Null Save Bare | state state | Communication Settings 1/O Settings Beit Setting Debug Setting Output Rule Settings Presentation Settings Decode Settings 1 Imaging Settings 1 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjus Code Type OCR Settings | Internessage characters Ox (DDDA End characters Ox (DDDC Autorrap Da Enable trigger command Ox 544F42 Disable trigger command Ox 544F44 No Read Off No Read Off No Read Sead Sead Sead Sead Sead Sead Sead S |
| Coni | iguration name | | Rename | < > | |



3.For example, set "Intermessage characters" to 2C (comma in hexadecimal), and "End characters" to 3B (semicolon in hexadecimal);

| | Data Inage Set | ting | | | |
|---------|---|---|-----------------------------|---|--|
| No. 1 2 | Iten Internessage ohar acters End ohar acters End ohar acters End ohar acters Dealete the Download Conf Generate configur Configuration Ited different configuration Save current device configuration Open Save | Yalue , ; row row rowation baroode Baroo | State Success Success | Communication Settings I/O Settings Debug Setting Output Rule Settings Presentation Settings Imaging Settings 1 Imaging Settings 2 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjust Code Type OCR Settings | Intermessage characters Ox C End characters Ox 38 Tendle trigger command Ox 644786 No Read Off No Read Off No Read feedback Ox 4852 Transmission delay (O-1000) O = ns Default Edit Settings Apply |
| Con | figuration name | | Rename | < > | |

The data output after successful reading are shown as below:

| Data | Image | Setting | |
|-----------------------|--------------|-----------|---|
| GS0200007, GS0500007, | GS0100007, G | S0600007; | _ |
| | | | |
| | | | |
| | | | |

4.Click "Multi-Barcode" of the standard toolbar, a dialog box pops up, where you can set multi-barcode rules.

| Ethernet I | FV105 Scan | ining Assistant2.6.8 | | | | | | | - | \times |
|------------|------------|-------------------------|--------------------------------|---------------------------------------|----------------------|-------------------------|---------------------|---------------------------|---------|----------|
| Open Open | Save | Multi-Barcode | dit I/O Loca | Decoding Assistant | ROM Update | Factory Reset | Ceboot Synchro | nized ? | Options | |
| | | Multi-Barcode | Open 🕨 Compile 🖉 | Write 🚽 Read [C | opy 🔹 📑 Paste | | | | | |
| | | Multi-Barcode Q | uantity 4 🚍 | Barcode Filter | No Perfect M | atch Tes | | 5 5 TH | | |
| | | No. | Position Range | Symbologies Match Mes | sage Length Position | a of Matching Character | rs Match Content | Device Address | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | Sequence Rules | Setting | | | | Delete the : | elected rule 👻 | | |
| | | No. 1 | * | | | | | | | |
| | | 🖉 Barcode Are | a Window left Window top | 1 🐳 Window right 1 🚔 Window bottom | 959 | | | | | |
| | | 🔲 Symbologies | Match AZTEC | and and | | | | | | |
| | | Message Len Position of | gth 8 📮 Matching Characters | 1 🚔 Characters to be : | natched | | | | | |
| | | Device Addr | ess 1 🔹 | | | | Add mas Add sequ | king rules uence rules | | |

"Multi-Barcode Quantity" : The number of barcodes can be set according to needs;

If the quantity is set to "0" : The barcodes identified by the reader will all be



decoded and output;

If the quantity is set to "non-0" : The quantity of decoding information is same as the set quantity. For example, if the quantity is set to 3, then it outputs 3 barcode information.

7.2 How to set up selection, positioning and sorting of multiple barcodes

1.Open "Multi-Barcode", set the barcodes output sequence as needed;

| Multi-Barcode | | - 🗆 X | | | | | | | |
|---|------------------------------------|--|--|--|--|--|--|--|--|
| 💾 Save 📄 Open 🕨 Compile 🖉 Write 🚽 Read | Copy - ট Paste | | | | | | | | |
| Multi-Barcode Quantity 4 🚔 Barcode Filter 🛛 🕶 Ferfect Match Tes | | | | | | | | | |
| No. Position Range Symbologies Mat | ch Message Length Position of Mate | hing Characters Match Content Device Address | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Sequence Rules Setting | | Delete the selected rule 👻 | | | | | | | |
| No. 1 🙀 | | | | | | | | | |
| 🗷 Barcode Area 🦷 Window left 🛛 1 📮 Window r | ght 1279 🚔 | | | | | | | | |
| Window top 1 😴 Window bo | ttom 959 | | | | | | | | |
| Symbologies Match AZTEC | | | | | | | | | |
| Message Length 8 | | | | | | | | | |
| rosition of Matching Characters 1 - Characters | to be matched | Add masking rules | | | | | | | |

2.Pull the "Multi-Barcode" window aside, select "Mouse Selection" in "Image Settings";



3.After selecting an area by mouse, the information of the selected barcode area will be automatically updated to the corresponding setting items in "Multi-Barcode", click "Add sequence rules", as shown in the figure:



| Per Save Nubli-Barcolo Last Last Nubli-Barcolo Last Last Nubli-Barcolo Last Last Nubli-Barcolo Last Nubli-Barcolo Last Nubli-Barcolo | | | | | | |
|--|----------------------------------|--------------------------------|--|--------------------|---|---|
| Composition Auto Composition Participa Multi-Barcola Composition Participa Multi-Barcola Composition Participa Multi-Barcola Composition Composition Participa Multi-Barcola Composition Composition Participa Barto Composition Composition Participa Participa Barto Composition Participa Participa Participa Participa Barto Participa Participa Participa Participa Participa Participa Sequere Participa Participa <t< td=""><td></td><td></td><td></td><td>U (</td><td></td><td></td></t<> | | | | U (| | |
| Auto: Barrow Same Barrow Complex Write we leader Barrow Same Complex Write we leader Barrow Same Same Same Same Same Same Same Same Same Same Same Sam | open save multi-barco | de Edit 170 Focal Decoding | Assistant Kow opdate Pactory | Reset Rebbut synch | onzed Help options | |
| Multi-Barcole Comple Winter Read Copy - Rati-Barcole County - Rati-Barcole County - Rati-Barcole County - Rati-Barcole County - Rati-Barcole Ration Ended - Rational Read - Seguence Rules Setting - Read - | \leftrightarrow X | Jata Image Se | ting | | | |
| Base Comple Winder winder Comple Comple </td <td>Multi-Barcode</td> <td>- 0 ×</td> <td></td> <td></td> <td></td> <td>InsgingHonitor</td> | Multi-Barcode | - 0 × | | | | InsgingHonitor |
| Rulti-Farende Gautity 4 2 barede Filter Fre Re Fretien Reage Scholerie Reit Franze Ler Re Fretien Reage Scholerie Reit Franze Ler Re fretien Reage Scholerie Reit Franze Ler Re fretien Reage Scholerie Reit Franze Ler Regester Bales Steting Regester Bales Steting R | Save 🔂 Open 🕨 Compile | 🖉 Write 🔹 Read [Copy • | | | | Image map |
| Bit Pritica Base Sublegier Mach Hense Leer 1 Br.1 G12.22-(1020.420) Fall Fall 1 Br.1 G12.22-(1020.420) Fall Fall 5 Special Setting Special Setting Special Setting 5 Special Setting Special Setting Special Setting 8 1 Special Setting Special Setting 9 Special Setting Special Setting Special Setting 9 | Multi-Barcode Quantity 4 | Barcode Filter No | | | | Automatic parameter |
| 1 No.1 (sig. 2g)-(100, 400 Nol1 Nol1 1 No.1 (sig. 2g)-(100, 400 Nol1 Nol1 Segment Balet the solettic rule Imaging Strings 1 Imaging Strings 1 Imaging Strings 1 Segment Balet the solettic rule Imaging Strings 1 Imaging Strings 1 Imaging Strings 1 Segment Balet Max Seletic rule Imaging Strings 1 Imaging Strings 1 Imaging Strings 1 Segment Balet Max Seletic rule Imaging Strings 1 Imaging Strings 1 Imaging Strings 1 Segment Balet Max Seletic rule Imaging Strings 1 Imaging Strings 1 Imaging Strings 1 Segment Balet Strings Imaging Strings 1 Imaging Strings 1 Imaging Strings 1 Segment Balet Strings Imaging Strings 1 Imaging Strings 1 Imaging Strings 1 Segment Balet Strings Imaging Strings 1 Imaging Strings 1 Imaging Strings 1 Segment Balet Strings Imaging Strings 1 Imaging Strings 1 Imaging Strings 1 Segment Balet Strings Imaging Strings 1 Imaging Strings 1 Imaging Strings 1 Segment Bales Strings Imaging Strings 1 Imaging Strings 1 Imaging Strings 1 S | No. Position Range | Symbologies Match Message Leng | | | | Autorocus adjustment |
| K Septeme har statigt K 1 K 1 | 1 80.1 (612,23)-(1039,43 | 6) Null Null | | | | Latest image 💌 Get |
| Sequesc Mar Setting Reiser to 22 % brends for 100 % 000 % Sequesc Mar Setting Reiser to 22 % brends for 100 % 000 % Sequesc Mar Setting Reiser to 22 % brends for 100 % 000 % Soboling to 22 % brends for 100 % 000 % Soboling to 22 % brends for 100 % 000 % Soboling for 100 % 000 % Soboling for 100 % 000 % Soboling for 100 % 000 % Frees Fitting for 100 % 000 % Free Fitting for 100 % Fitting | | | | ****** | | Use Settings1 |
| Spearse Bales Setting Segmente Bales Setting Balester the solered rule = Segmente Bales Setting The solered rule = Balester the solered rule = Segmente Bales Setting The solered rule = Balester the solered rule = Segmente Bales Setting The sol | | | The second se | | | Imaging Settings 1 📝 Decoding |
| C Segunde hate field left dig in the value of index of the value of index of the value of the v | | | 12,000 | THE REAL | | ImageSettings |
| C C C C C C C C C C C C C C C C C C C | | | 304395 | ISLS . | | Decoding Window Mode TT OFF Moure Selection |
| Segurare Bales Setting Re 1 m Re 1 m Re 1 m Re 1 m Re 1 m Re 2 m Vinder 1 m Re 2 m Vinder 1 m Re 2 m Vinder right 100 m Vinder right 1 | < | > | 2.5 | 100 | | 1eft 612 🔹 right 1039 📮 OK |
| Ye 1 Image: Second stress Vinder left 62 Vinder right 00 | Sequence Rules Setting | Delete the selected rule . | 124 | | | top 23 🖕 bottom 436 🖕 Cuncel |
| Image: Second Serves Yindow top: 2 2 2 Vindow right 1000 2 2 4 Vindow right 1000 2 2 4 Vindow right 1000 2 2 4 Vindow top: 2 2 2 2 Vindow bottom 400 2 4 4 2 4 4 4 2 4 4 4 4 4 4 4 4 4 4 | v. 10 | | | | | Lighting intensity Exposure Time |
| Finder top 2 Winder bettes 40 0 <td>Barcode Area Vindow left</td> <td>612 - Vindov right 1039 -</td> <td></td> <td></td> <td>A COMPANY</td> <td></td> | Barcode Area Vindow left | 612 - Vindov right 1039 - | | | A COMPANY | |
| Spablagies Hath ATTE melanoid contrast off mel | Window top | 23 Vindow bottom 436 | and the second second | | A STATE OF THE OWNER | Gain @ 0 2 08 |
| If Bessage Length 0 | Symbologies Match AZTEC | | and the second | | A CONTRACTOR OF | enhanced contrast off |
| Position of Rathing Character is a constrained at the second | Messare Length 8 | | 1.8544 | | | Forus Distance |
| Derice Address 1 | Position of Matching Characters | 1 Chargements In graded | | 78 A.A | E. | Initial gray value 0 🔹 OE |
| Binning OFF - OK | Device Address | Add sequence rules | 095 | ※※ 回 | | LED on OE |
| Current Settion Command: | Current Setting Command: | | | | | Binning OFF 💽 OE |
| | | | | | | |
| 2004/2/21 9:39 49/[Setting data | [2024/2/21 9:39:49][Setting data | | | | | |
| 9974 Y09/941402 | abasts combrated) | | | | | |
| | | | | | | |
| | | | | | | |
| Time insec details | | View image details | | spin none | -O Display Scale 75% | * Vilter and Setting |
| | 1 0 搜索 | | | | | → ENG 9:51 = |

If you need to set a second barcode, set the output sequence to "No.2" and select a new barcode area;

Likewise, set the third and fourth barcode. "Multi-Barcode Quantity" must match the number of barcodes in the output sequence.

After completing the above settings, click "Compile" and "Write". Then the barcodes have been output according to sorting rules through barcode area selection.



4.Sorting can also be set by the following rules:

Code symbology matching: You can select the code symbologies needed in "Symbologies Match" (one of the barcode rules);

Barcode length: You can select the length of the barcode in "Message Length" (one of the barcode rules);

Matching characters position: Select in "Position of Matching Characters" . For example, for barcode ABC23, if to find the position of "C", then the "Position



of Matching Characters" is "3".

Characters to be matched: Enter the characters in "Characters to be matched" as a bar code rule.

Note: The new rule needs to be added to the rules list. Click "Compile" and "Write", then the rule takes effect.



7.3 How to set the prefix or suffix of barcode

content

1.Open "Edit" ;

| Ethernet FV105 Scanning Assi | itant2.6.8 | | | - | × |
|------------------------------|---|--|--|----------------|---|
| Open Save Multi-B | Ircode Edit I/O Local Decoding Assista | nt ROM Update Factory Reset | C C C C C C C C C C C C C C C C C C C | Options | |
| | Edit Save Open Compile Write Baroode Editing Process Delete Selected Move Up Nove Down | Read (/) Debug C Basic Editing The 1 * th Barcode is our Prefix(Hex) Suffix(Hex) Character Replacement Position Replace Characters Intercept from the end of 2 * th character to t 3 * th character | <pre>>> Copy • Paste ting rently being edited 0K 0K 2 * 0K the end of 0K</pre> | | |
| | | | | | |

2.You can enter the desired characters in the text boxes after "Prefix (Hex)" and "Suffix (Hex)". The input text should be in hexadecimal which can be obtained in "Assistant" tool;

For example, if you need to add "ABC" characters before and after the barcode, click to open the "Transformation Assistant" dialog box, enter "ABC", it will be automatically converted to hexadecimal characters "414243", then click "Copy Hex Text";

| 📰 Ethernet F | FV105 Scar | nning Assistant2.6 | .8 | | | | | | | | | | × |
|--------------|------------|--------------------|------|------------------|----------------|-----------|------------|---------------|---|--------------|-------------|---------|---|
| Open | Save | Multi-Barcode | Edit | - <u>&</u> - | Local Decoding | Assistant | ROM Update | Factory Reset | C | Synchronized | (?) Help | Options | |



| iex | 414243 | | | |
|------|-------------|-------------------------|---|--|
| | Copy Hex Te | ×t | | |
| ype | MUL. | eg : OCR Setting: "OCR" | | |
| ata | | ASCII | * | |
| Cres | ate BarCode | | | |

3.Paste the copied hexadecimal text into the corresponding Prefix and Suffix input box in "Quick Editing" . Then click "OK" , "Compile" and "Write" to complete the settings;

| and the second se | |
|---|--|
| Edit | × |
| 💾 Save 🦵 Open 🕨 Compile 🖉 Wr | ite 🔿 Read Debug 📋 Copy 🗸 🛱 Paste |
| Barcode Editing Process | Basic Editing Quick Editing |
| ⊖ General edition of bar code 1 ⊢Prefix: ABC Suffix: ABC | Quick Editing The 1 the Barcode is currently being edited Prefix(Hex) 414243 OK Suffix(Hex) 414243 OK |
| | Character Replacement Position 2 🛬 OK |
| | Intercept from the end of 2 🚔 th character to the end of 3 🚔 th character |
| Delete Selected 👻 | OK |
| Move Up | |
| Move Down | |
| Compilation completed. There are 9 basic op | perations in total. Time:10:38:34 |

As shown in below picture, the prefix and suffix of the bar code information is "ABC".

| Data | Image | Setting |
|------------------|-------|---------|
| ABC SO200007 ABC | | |
| BCGSU20000 /ABC | | |
| | | |

4.In multi-barcode mode, it is also possible to add prefix and suffix to multiple different barcodes. Select the sequence number of the currently edited barcode on "Quick Editing" page.

| code Editing Process | Basic Editing Quick Editing |
|----------------------|--|
| | Quick Editing |
| | The 1 + th Barcode is currently being edited |
| | Prefix(Hex) |
| | Suffix(Hex) |
| | Character Replacement Position 2 🛖 Replace Characters OK |
| | Intercept from the end of $2 \stackrel{(\bullet)}{=} th character to the end of$ |
| Delete Selected | |



7.4 How to set IO logic

Open "I/O" from normal toolbar.

"Save" : Save the current I/O logic;

"Open" : Open the configured I/O logic;

"Load Initial Logic Rule" : Restore the I/O logic to the factory state;

"Compile", "Write": The modified I/O logic takes effect only after clicking Compile and Write.



Introduction to common functional modules:



The input and output states are represented by 1 and 0.

"AND" : When both inputs are 1, the output is 1 and the others are 0; "OR" : When both inputs are 0, the output is 0 and the others are 1;



"NOT" : When the input is 1, the output is 0; When the input is 0, the output is 1;

"Timer" : During the process of doing something, there is a timer in the background. It will trigger another task when the scheduled time is up;

"Delaying device" : The duration of maintaining the current working state during the process of doing something.

7.5 How to set up inverted barcode applications

In "Setting" - "Decode Settings", enable "Inverted barcode reading", then click "Download Configuration".

| / | Data Inage Set | ting | | | |
|-----|---|---|------------------|--|---|
| No. | Item Inverted barcode reading Delete the Deveload Confi Generate configure Configuration Load different configuration Save surrent davise configuration Save configuration Open Save cipration name | Value On or guration guration tion burcode | State SUCCESS | Communication Settings I/O Settings Edit Settings Debug Setting Output Rule Settings Presentation Settings Imaging Settings 1 Imaging Settings 3 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjust Code Type OCR Settings | Trigger Mode Comen Mode Maximum decoding time Maximum decoding time (0-10000) 5000 m nz Time limit to search barcode (20-2000) 200 m nz Dot matrix code optimization 0 0 0 0 m 0 0 m 0 0 m 0 0 m 0 m 0 |

"Inverted barcode reading" disabled



"Inverted barcode reading" enabled





7.6 How to set up Dot Matrix barcode

applications

In "Setting" - "Decode Settings", open "Dot matrix code optimization", then click "Download Configuration".

| Dot matrix code optimiz. | . On | Deace | | AAABBCA MOVAG |
|-----------------------------|-----------------|----------------|--|---|
| | | success | I/O Settings | Common Mode |
| | | | Edit Settings | Maximum decoding time (0-10000) 5000 🚔 ms |
| | | | Output Rule Settings | Time limit to search barcode (20-2000) 200 - as |
| | | | Presentation Settings Decode Settings | Dot matrix code optimization |
| Delete t | te row | • | Imaging Settings 1 Imaging Settings 2 | Inverted barcode reading |
| Generate confi | puration barcoo | le | Imaging Settings 3 Imaging Settings 4 | Small DM reading optimization |
| Den Device Configuration | 11 | | Automatic parameter adjus | Defaced DM reading optimizatio |
| Load different | | | OCR Settings | On |
| Save current device | | | | NO quiet zone QR reading |
| configuration to local | | | | Maximum quantity of images tak en in Enhanced Mode |
| ective configuration | | | | (1-30) 10 🚔 |
| 0-12 | | • | | Snap interval of Enhanced Mode (0-50) 0 ms |
| Upen Sa | baro baro | ode generation | | Trigger Type of Continuous Mod |

"Dot matrix code optimization" disabled



"Dot matrix code optimization" enabled





7.7 How to set up the application of small DM barcode and defaced DM barcode

Small DM barcode optimization reading:

Open "Setting" - "Decode Settings", open "Small DM reading optimization", then click "Download Configuration".



"Small DM reading optimization" disabled



"Small DM reading optimization" enabled



Defaced DM barcode optimization reading:

Open "Setting" - "Decode Settings", open "Defaced DM reading optimization", then click "Download Configuration".

| 0. | Item | Value | State | Communication Settings | Trigger Mode |
|------|-------------------------|--------------|----------------|----------------------------|---|
| | Defaced DM reading opti | 0n | success | I/O Settings | Common Mode |
| | | | | Edit Settings | Maxinum decoding time |
| | | | | Debug Setting | (0-10000) 5000 🚔 ms |
| | | | | Output Rule Settings | Time limit to search barcode |
| | | | | Presentation Settings | (20-2000) 200 📑 ms |
| | | | | Decode Settings | Dot matrix code optimization |
| _ | | | | Imaging Settings 1 | Toursellow |
| _ | Delete the | row | • | Imaging Settings 2 | Off |
| - | Generate configur | ation barcos | e | Imaging Settings 3 | Small IM reading optimization |
| | | | | Imaging Settings 4 | Off |
| | Open Device Null | | | Automatic parameter adjust | Defaced IM reading optimizatio |
| | contrau acton | | | Code Type | n |
| | Load different | | | OCR Settings | On |
| | contiguations | | | | NO quiet zone QR reading |
| 8 | Save current device | | | | Un |
| | the second second | | | | Maximum quantity of images tak en in Enhanced Mode |
| | | | | 1 | (1-30) 10 |
| sel. | ective configuration | | | | Snap interval of Enhanced Mode |
| | Onen Save | Barro | ada reporti on | | (0-60) 0 📥 ns |
| | open Save | Dare | our generation | | Trigger Type of Continuous Mod |
| on | figuration name | | Designed | | |



"Defaced DM reading optimization" disabled

"Defaced DM reading optimization" enabled





7.8 Set the application of polling reading

The polling reading application is mainly applied to the same batch, and in different situations such as code symbologies, coding medium, barcode quality, position, etc., different setting parameters need to be used to poll and decode; It can be set through the Image and Setting interface.

Image interface

A total of 4 sets of parameter group (group1-group4) are available for polling and decoding. The default is parameter group 1, and parameter group 2-4 can be selected. When setting each parameter group, it is necessary to confirm the corresponding imaging parameter group settings and tune the parameters to suit barcode reading. Each imaging parameter group can be set separately. After the setting is completed, if the current parameter group is required to participate in polling decoding, it is necessary to tick the checkbox of "Decoding", then the polling decoding setting is completed.





| Data Image | Setting | | |
|--------------------|--------------|----------------------|--|
| | | | ImagingMonitor |
| | | | Image snap Autoforus Autoforus |
| | 認知 | | Latest inage Get Use Stitings V |
| | | DATAR | Inaging Settings 1 Decoding Image Settings Decoding Vindor Mode OFF D Monra Salartian |
| | | | left 0 m right 1279 m 0K top 0 m bottom 959 m Cancel |
| | 1886 1886 | | Lighting intensity Exposure Time |
| | 1995 | | enhanced contrast off • OK |
| | | | Initial gray value 0 + 0K |
| View image details | A | - A Dialas Saula 75% | LED on V OK Binning OFF V OK |

Settings interface

Set the needed parameters in the corresponding imaging parameter group, and tune the parameters to suit barcode reading. After setting, if the parameter group is required to participate in decoding, open "Decoding Window" to "ON" and click "Download Configuration".

| Data Inage | Setting | | | |
|---|--|--|--|---|
| No. Ites Dalets Boonload Generate coni Configuration Load different configuration Load different configuration Configuration to local Selective configuration Open 3 Configuration name | Value the row Configuration figuration barook Null | State Control of the second se | Communication Settings I/O Settings Edit Settings Debug Setting Output Rule Settings Decode Settings Imaging Settings 1 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjust Code Type OCR Settings | 1#Decoding Window ∧ 1#Vertical Boundary 000000579 ✓ 1#Illenination mode LED on ✓ 1#Fixed binning ✓ 00ff 1#Size 1#Size 1#Size (0-3) 3 → 1#Saine (1-16) 2 → 1#Entitial gray value (0-767) 0 → 1#Eachanced contrast enhanced contrast o w ✓ #Forus Distance (0-100) 29 → |



8 Other Operations

8.1 How to check the decoding data after

successful setup

When device triggers, if the decoding is successful, the barcode information will be displayed in "Data" interface. As shown in below figure:



8.2 How to trigger devices through commands

In "Data" interface, select the corresponding command and click "Send Command" to trigger the device. The default trigger command for the device is "TON", and the trigger cancel command is "TOFF". To set command triggering interval, you can check in "Time-interval", the default is 1000ms/time.

| \square | Data | Image | Setting | | | | | |
|-----------|----------------|--------------|--------------|------------------|------------|---|--|--------------------------------|
| | | | | | , | ~ | BecodingInformationStat | istics |
| | | | | | | | Description | Result |
| | | | | | | | Decoding Times | 0 |
| | | | | | | | Good Read Times | 0 |
| | | | | | | | Fail read Times | 0 |
| | | | | | | | Read Rate | 0 |
| | | | | | | | Number of command triggers | 0 |
| | | | | | | | Statistic ON Clear Resul Setting mode: defau | Automatic Save t |
| | | | | | | Command Specify Character Type OxFF Add Specified Character | | |
| | | | | | | | TON | |
| | | | | | | | Hex format input | |
| | | | | | | | 544F4E | |
| | | | | | | | Send Comman | d |
| | | | | | | | Time-interval Unit :ms 🛛 | 1000 🚔 |
| | | | | | | | s s | ingle 🔽 |
| | | | | | | ~ | Trigger On Cont Trig | inuous Trigger ger Interval |
| | Encoding: Chi: | nese Simplif | ied (GB2312) | 🔲 Display as Hex | Clear Text | | Trigger Off | 500 🚔 ms |



If you need to replace trigger command or trigger cancel command, you can make changes in "Setting" - "Edit Settings", referring to the details in Chapter 6.9.

8.3 How to realize data input from the keyboard

Connect the QHQ cable DB9 (male) end to the Serial communication cable DB9 (female), and connect the USB end to the PC end.



In "Communication Settings", set the "Baud Rate" to 9600, other Serial port settings are factory default parameters. Click "Download Configuration", then the output data is the data input from the keyboard. The data can be checked in a text file (in English mode).

| | Data Image Set | tting | | | | |
|-----|---|---|---|--|--|--------|
| No. | Iten Bend Bate Bend Bate Bend Bate Bendoad Con Generate configuration Configuration Swe current device configuration Swe current device configuration Open Save figuration Save | Value 9600 Figuration ation barcod | State SUCCESS a a ode generation Renne | Communication Settings I/O Settings Edit Settings Debug Setting Output Rule Settings Presentation Settings Imaging Settings 1 Imaging Settings 3 Imaging Settings 3 Imaging Settings 4 Automatic parameter adjust Code Type OCR Settings | Baud Rate 9900 Fartty None Data bitz/Stop bit 8 Data bitz/Stop bit 9 Data bitz/Stop bit 8 Data bitz/Stop bit 9 Data bitz/Stop bit </th <th>< *</th> | < * |

Note: The QHQ cable is an optional accessory. If it's needed, please ask our sales or technical personnel to purchase.



8.4 How to check the firmware version

information of the reader

Click "Help" button and click on "Equipment information" to check the current device model, firmware version, etc. As shown in the figure:



8.5 How to restore the factory settings for the reader

Click "Factory Reset", the "Warning" dialog box pops up, then click "OK".



When you hear the device prompt sound and a "Warning" dialog box pops up, click "OK", then the device has been successfully restored to the factory.

OK

Cancel





8.6 How to use "infostepper" to restart the barcode reader

1.Click "Reboot" button and a "Warning" dialog box pops up, then click "OK". As shown in the figure:



2.A "Warning" dialog box pops up, as shown in below figure. Click "OK" to complete the restart of the barcode reader. The buzzer prompts when the reader restarts. The "infostepper" has been restored to its initial state, you can connect it again.



8.7 How to convert characters to "Hex"

(hexadecimal)

Click on "Assistant", enter the characters needed, they will be automatically converted to hexadecimal characters. Click "Copy Hex Text" and paste it to the corresponding location you need.

| Ethernet | FV105 Sca | nning Assistant2.6 | .8 | | | | | | | | | - | × |
|----------|-----------|--------------------|------|-------------------------------|---------------------------------|----------------------|----------------|--------------------|--------|---------------------|-----------|----------------|---|
| Open | Save | Multi-Barcode | Edit | - <mark>&</mark> - I/O | Local Decoding | <u></u> Assistant | ROM Update | S Factory Reset | Reboot | (O) Synchronized | ? Help | Options | |
| | | | | | | | | | | | | | |
| | | | | Transfo | rmation Assistant | | | | × | | | | |
| | | | | Charac | ter LON | | | | | | | | |
| | | | | ↓ Hex | 4C4F4E | | | | | | | | |
| | | | | | Copy Hex | Text | | | | | | | |
| | | | | Тур | MUL | eg.: OCR | Setting: "OCR" | | | | | | |
| | | | | dat | 1 | A | SCII | .* | | | | | |
| | | | | | | _ | | | | | | | |
| | | | | Fir | Create BarCode st Send(hex): | | | | | | | | |
| | | | | aft | er Send(hex): if 1 | receive O6 O | d send success | | | | | | |
| | | | | | | | | | | | | | |



9 Factory Settings

9.1 Factory settings description

| Factory Settings Description | | | | | | |
|---|--|--|--|--|--|--|
| Social communication mathed | Baud rate: 115200; Parity bit: NA | | | | | |
| | Data bits: 8; Stop bit: 1 | | | | | |
| TCP Port number | 4096 | | | | | |
| USB communication mode | Simulated Serial port | | | | | |
| Default IP address | 192.168.0.100 | | | | | |
| Default subnet mask | 255.255.255.0 | | | | | |
| Default 24V/5V internal pull-up | Closed | | | | | |
| Default trigger command | TON (544F4E) | | | | | |
| Default trigger cancel command | TOFF (544F4646) | | | | | |
| Default character feedback for reading failure | Closed (NR,4E52) | | | | | |
| Default transmission delay | Os | | | | | |
| Decoding time; Code symbologies information; Barcode position | Closed | | | | | |
| Default duplicate barcode shielding | Closed | | | | | |
| Trigger mode | Normal mode | | | | | |
| Default maximum decoding time/Time limit for barcode search | 5000ms/200ms | | | | | |
| Dot matrix barcode optimization/inverted barcode reading/DM small barcode optimization | Closed | | | | | |
| Optimization reading for defaced DM code/QR code reading without quiet zone | Opened | | | | | |
| Default enabled code symbologies | 128 code,39 code,93 code,UPC/EAN code,CODABAR code,PDF417 code,AZTEC code,DM code,QR code | | | | | |
| Lighting intensity/Exposure time/Gain | 3/8/2 | | | | | |



10 Programming Guidance (C# Code Example)

In order to reduce the threshold for code access, the transmission of device decoded data does not use private protocols. Familiar with using Serial/Network Assistant to control device triggering, it's able to quickly complete code writing after receiving device decoding data. The example code here is in C# language. Other languages can refer to the relevant data transceiving code of the Serial/Network Assistant for writing, after becoming familiar with device operation.

10.1 Serial Port

1.Open Serial port

For parameters such as port number and baud rate, you can refer to the connection parameters of the host computer or Serial/Network Assistant.

System.IO.Ports.SerialPort serialPort1; serialPort1.PortName = "COM1"; serialPort1.BaudRate = 115200; serialPort1.DtrEnable = false; serialPort1.Open();

For actual development, the error handling can be added as needed, as shown in the following figure:

```
System. IO. Ports. SerialPort serialPort1;
/// <summary>
/// <summary>
/// <param name="sender"></param>
/// <param name="sender"></param>
private void Btn_COMConnet_Click(object sender, EventArgs e)
{
    if (!_isConnected)
    {
        try
        {
            System. Diagnostics. Trace. WriteLine(DateTime. Now + ": connecting ");
            serialPort1. PortName = "COM1";
            serialPort1. PortName = "COM1";
            serialPort1. BaudRate = 115200;
            serialPort1. DtrEnable = false;
            serialPort1. Open();
        }
        catch (Exception ex)
        {
            System. Diagnostics. Trace. WriteLine(DateTime. Now + "; Serial port opening exception "
            + ex.Message);
            return;
        }
    }
}
```



2.Send trigger command

Trigger command defaults to "TON" ;

To send a trigger command: serialPort1.Write("TON");

Support custom trigger commands, setting method can be found in chapter 6.9;

In addition to command triggering, other triggering methods are also supported, as shown in chapter 2.4.2~2.4.4.

3.Receive barcode data

Add the method of barcode data receiving serialPort1.DataReceived += serialPort1_DataReceived; Barcode data can be received in serialPort1_DataReceived byte[] buffer = new byte[serialPort1.BytesToRead]; int len=serialPort1.Read(buffer, 0, buffer.Length); Console.WriteLine(Encoding.ASCII.GetString(buffer, 0, len));

The default is to upload the barcode data as is, and a carriage return and line feed will be added at the end of a barcode for distinguishing. If necessary, you can refer to chapter 7.3 to modify the prefix/suffix of the barcode data, as it is convenient for the program to determine the integrity of the received barcode. It also supports setting the data uploaded after reading failure, which can be used to determine whether the decoding is successful or not, as shown in chapter 6.10.





10.2 TCP communication through network port

1.Establish a TCP connection

The IP address and port number settings of the device can refer to chapter 6.5. private Socket mySocket;

_mySocket = new Socket(AddressFamily.InterNetwork, SocketType.Stream, ProtocolType.Tcp); _mySocket.Connect(IPAddress.Parse("192.168.0.100"), 4096);



2.Send trigger command

Trigger command defaults to "TON";

To send trigger command:

```
_mySocket.Send(Encoding.ASCII.GetBytes("TON"));
```

Support custom trigger commands, setting method can be found in chapter 6.9;

In addition to command triggering, other triggering methods are also supported, as shown in chapter 2.4.2~2.4.4.

3.Data reception

There are many ways for Socket to receive data, you can choose one of them according to the actual application scenario. Here below is one of the methods, for more methods, please refer to the official guide.

Create a new thread

Thread TRec = new Thread(RecvMsg) { IsBackground = true };

TRec.Start();

Open a loop in the thread to continuously check if there is any data that needs to be read

if(_mySocket.Available<=0)



{

Continue; } If there is, read the data and process it byte[] buffer = new byte[_mySocket.Available]; int length = _mySocket.Receive(buffer); Console.WriteLine(Encoding.ASCII.GetString(buffer, 0, length));

The device supports setting the data uploaded after reading failure, which is used to determine whether the decoding is successful or not, as shown in chapter 6.10.