

Multi-function Product User Manual

Please read it carefully and keep it properly.

Features:

All in one identification and authentication

IPS high-definition touch screen

Multi output interface

Customize screen interaction

Suzhou Koodle Technology Co., Ltd.

Disclaimer

Before using the product, please carefully read all the content in this document to ensure the safe and effective use of the product. Do not disassemble the product or tear the seal on the device by yourself, otherwise Suzhou Koodle Technology Co., Ltd. will not be responsible for warranty or product replacement.

The pictures in this manual are for reference only. In case of any discrepancy between individual pictures and actual products, the actual products shall prevail. For the upgrade and update of this product, Suzhou Koodle Technology Co., Ltd. reserves the right to modify the document at any time without notice.

The risk of using this product shall be borne by the user. To the maximum extent permitted by applicable laws, Suzhou Koodle Technology Co., Ltd. shall not bear any responsibility for the damage and risk caused by the use or inability to use this product, including but not limited to direct or indirect personal damage, loss of business profits, trade interruption, loss of business information or any other economic losses.

Suzhou Koodle Technology Co., Ltd. reserves the right to interpret and modify this manual.

Edit history

Change date	Version	Description	Responsible
2023.6.29	V1.0	Initial version	
2023.8.2	V1.1	Update	
2023.10.10	V1.2	Update content related to door magnets	
2023.10.17	V1.3	Add device update related content	

Catalog

Disclaimer..... 2

1. Preface..... 6

1.1. Product introduction..... 6

1.2. Product features..... 7

1.3. Applicable model..... 7

1.4. Installation List..... 8

2. Product appearance..... 9

2.1. Overall introduction..... 9

2.2. Product dimensional drawing..... 11

2.3. Introduction of function blocks.....12

2.3.1. Startup interface..... 12

2.3.2. Main interface..... 12

2.3.3. Password authentication interface..... 13

2.3.4. Verification reminder..... 13

2.3.5. Information reminder interface..... 15

2.4.Upgrade..... 15

3. Product parameters..... 17

3.1. General parameters..... 17

3.2. Recognition parameters..... 18

3.3. Electric parameters..... 20

3.4. Working environment..... 20

4. Interface definition..... 21

5. Mounting method.....23

5.1. 86 box installation.....24

5.2. Non 86 box installation.....25

5.3. Disassembly drawing..... 26

6. Application of access control scenarios.....27

6.1. Independent use.....27

6.2. Cooperating with the controller..... 28

6.3. Cooperating with safety module..... 29

6.4. Wire selection..... 31

7. Device configuration.....32

7.1. Networking elements..... 33

7.2. Protocol description.....33

7.3. Transparent transmission - TCP.....35

7.4. Transparent transmission - TCP protocol..... 38

7.5. Transparent transmission - HTTP 42

7.6. Transparent transmission - HTTP protocol.....45

7.7. Protocol (TCP)..... 48

7.8. Security module mode..... 52

7.9. Bluetooth function.....54

Step 1: Download and install the Android Bluetooth detection tool APP on the official website

8. Attention.....57

9. Contact info.....58

1.Preface

Thanks for using the DW200 product. Reading this manual carefully can help you understand the function and features of this device, and quickly master the use and installation of the device.

1.1.Product introduction

DW200 multifunctional all-in-one machine is a product developed specifically for the field of access control. It uses transparent or protocol mode to interact with access control management software, achieving intelligent linkage, and can cover various scenarios such as access control, channel gates, self-service devices, elevators, etc.

DW200 uses a 3.33-inch IPS high-definition touch screen with an ultra-thin design that supports horizontal and vertical screen installation. It is suitable for various scenarios such as 86 box installation and gate installation, and supports multiple authentication methods such as scanning, password, NFC card, PSAM card(in process), Bluetooth, etc.

DW200 supports RS485 output and can interface with traditional access controllers and other necessary access components to form an access control unit. Supports 100M adaptive network interface, relay interface, and door switch signal input, door magnetic signal input, can be directly connected to the network and combined with other necessary access control components to achieve access control functions. At the same time, the access control security control module can be connected through the RS485 interface to achieve higher levels of security.

Designed with various protection mechanisms such as software dogs and hardware dogs to prevent crashes and ensure more reliable device operation.

1.2.Product features

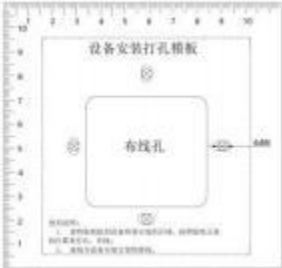
- 1, Multiple authentication methods such as scan code, password, NFC, PSAM card, Bluetooth, etc; 2, Support horizontal and vertical screens, dual use for one machine;
- 3, 320*480 resolution IPS high-definition capacitive touch screen, supporting custom UI development; 4, Fast reading speed and high accuracy, supporting various screen code recognition such as OLED screens; 5, Customized voice, providing a more user-friendly interactive experience;
- 6, Integrate 100Mbps adaptive network interface, RS485, relay, door opening input, door magnetic input and other interfaces to easily connect with various access control systems, making it fast and convenient to use.

1.3.Applicable model

Model	Color	Capacitive touch control	Voice
DW200-01	Black matte	×	×
DW200-01S	Black matte	×	√
DW201-02	Black matte	√	×
DW201-02S	Black matte	√	√
DW200-SA-01	Black matte	√	×

1.4.Installation List

Parts	Configuration	Picture	Quantity	Use
Main engine	Standard		1	
Installation bracket	Standard		1	
Connecting wire	Standard		1	Connecting wires, connecting the host and other access control devices.Unused signal wires need to be cut off with exposed wire ends or wrapped with insulating materials to prevent short circuits at the wire ends.

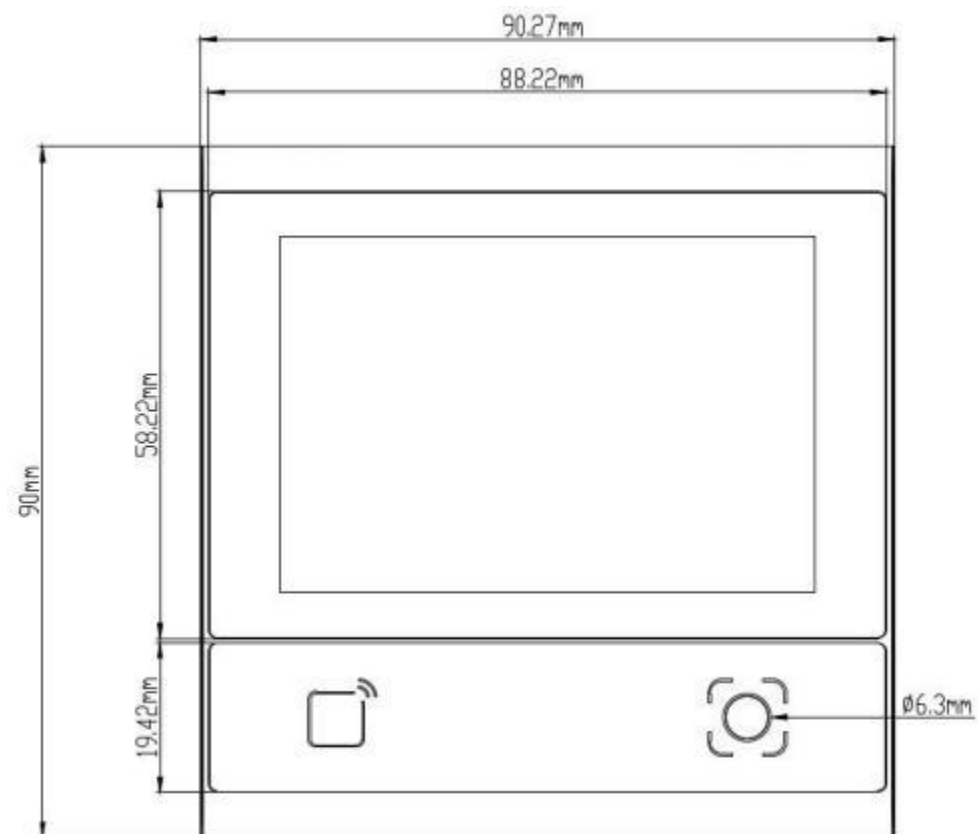
Install screws	Standard		2	M4 * 20mm screw, fixed installation bracket
Perforated sticker	Standard		1	Installation position drilling guide
Warranty card	Standard		1	

2.Product appearance

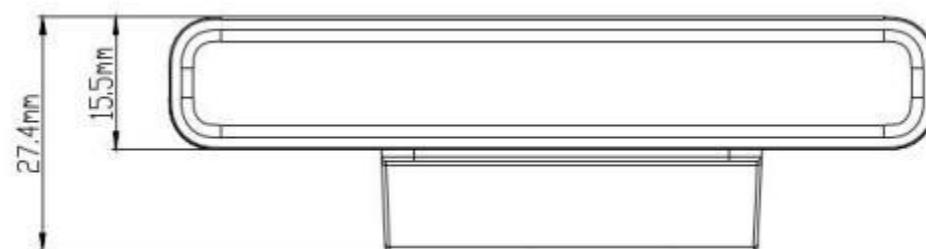
2.1.Overall introduction



2.2.Product dimensional drawing



2.1 Product Front View



2.2 Product Side View

2.3.Introduction of function blocks

2.3.1.STARTUP INTERFACE



① Welcome page, displayed at startup

2.3.2.MAIN INTERFACE



1 Status indicator

 Network is connected and communication with the gateway is normal;

 Network disconnection;

 Bluetooth: display indicates Bluetooth device access, no display indicates no Bluetooth device access;

 MQTT: display indicates that a connection has been established with the MQTT server, and no display indicates that there is no connection with the MQTT server;

TCP icon: display indicates that a connection has been established with

 the TCP server, and no display indicates that there is no connection with the TCP server;

- ② Display time
- ③ Display logo, can be changed through configuration tools
- 4 Unlock button, click to switch to the password authentication interface
- ⑤ Display device SN number, can be hidden through configuration
- ⑥ Display IP address, can be hidden through configuration
- 7 Background image, which can be upgraded and changed through configuration tools

2.3.3. PASSWORD AUTHENTICATION INTERFACE



- ① Password keyboard, 0-9, cancel and confirm keys.

After pressing the "Cancel" button, return to the main interface; After pressing the "Confirm" button, proceed with password authentication

- ② Status display:



Press the button, , clockwise display of orange bars from above 1, with unlimited password digits.

2.3.4. VERIFICATION REMINDER

- 1) Verification success page



- ① The authentication status pop-up display area displays the status after QR code, card swiping, Bluetooth, and password authentication



: QR code verification successful;



: Password verification successful;



: Card verification successful;



: Bluetooth verification successful;

- 2 The authentication status color bar display area will display a green bar after successful QR code, card swiping, Bluetooth, and password authentication

2) Verification failure page



- ① The authentication status pop-up display area displays the status after QR code, card swiping, Bluetooth, and password authentication



: QR code verification failed;



: Password verification failed;



: Card verification failed;



: Bluetooth verification failed;

- ② The authentication status color bar display area will display a red bar after the QR code, swipe card, Bluetooth, and password authentication fail

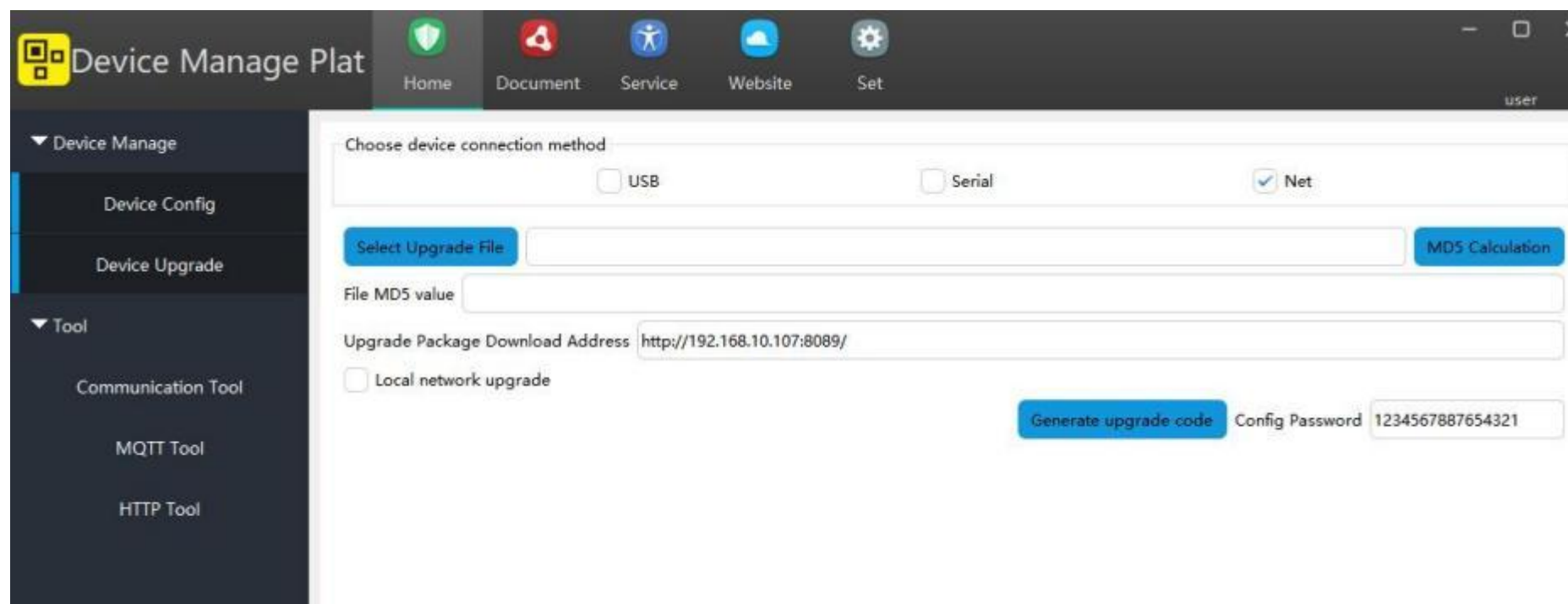
2.3.5.INFORMATION REMINDER INTERFACE



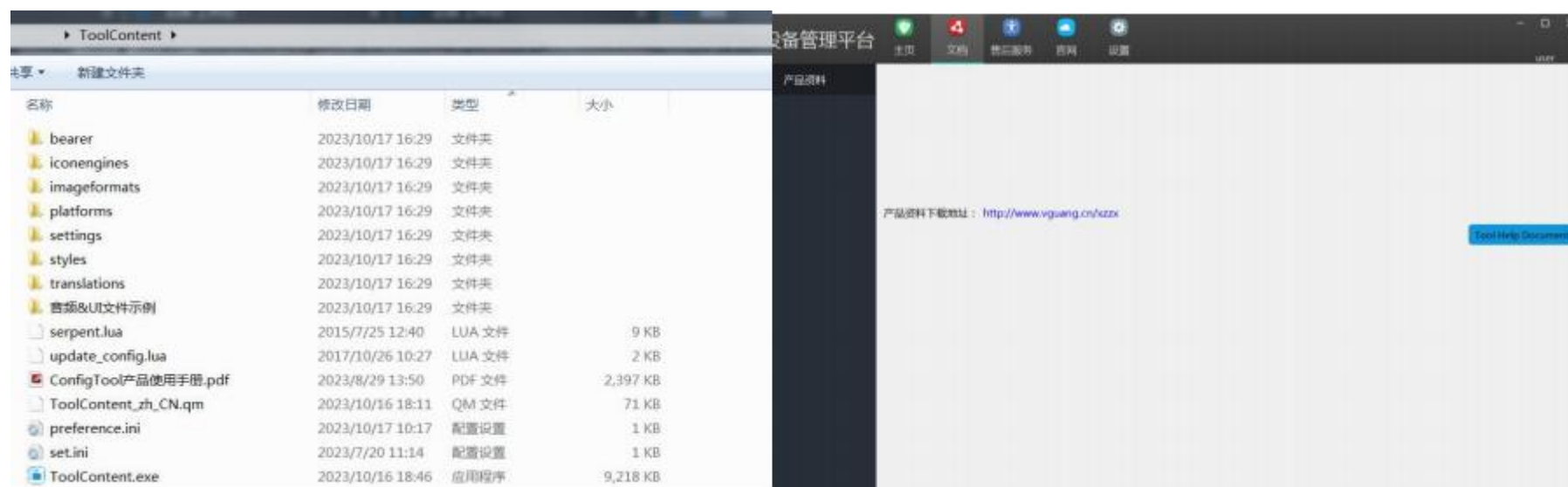
- 1 Reminder information display area, can be popped up or closed through the network, display duration can be defined, and required text information can be updated.
- ② Return button, press to close the reminder interface and return to the main interface.
Can control whether there is a return button through protocol.

2.4.Upgrade

Can use the ToolContent configuration tool to upgrade devices, including firmware upgrades and UI and voice upgrades. The upgrade channel includes USB (not available externally to the DW200 device), serial port (RS485 for the DW200 device), and network, as shown in the following figure. The upgrade interface is located in Device Management - Device Upgrade.



The upgrade process can be found in the ConfigTool product user manual. pdf document, Chapter 3: Device Upgrade&Voice UI Configuration. This file can be found in the same directory as the configuration tool Toolcontent.exe, or directly opened by clicking on the document interface of the device management platform.



3.Product parameters

3.1.General parameters

General parameters	
Communication interface	485, Ethernet
Access control interface	Exit switch input, relay output, door magnetic signal input
Indication method	Screen icon indication Buzzer, voice (optional)
Image sensor	480,000 pixel CMOS image sensor
Maximum resolution	800*600
OS	Linux
Installation method	86 box installation, non 86 box installation
Reading window material	Tempered glass
Screen size	3.33 inches
Screen resolution	320*480 IPS HD
Touch screen	Capacitive touch
Speaker decibel	≤71 decibels, at a distance of 1 meter from the speaker
Bluetooth	BLE 5.1 Maximum communication distance of 25 meters in open environment

3.2.Recognition parameters

QR code reading parameters	
Identification code system	Two-dimensional code: QR Code, PDF417 One-dimensional barcode: CODE128, EAN13, EAN8, code39, code93, ISBN10, ISBN13, ITF, UPCA, UPCE, AZTEC
Decoding support	Screen code
Reading distance	15mil QR code: 22.5mm~129.06mm（Under normal indoor light, the phone brightness is 100%）
Reading accuracy	QR: ≥7mil, in version 7; ≥8mil, in version 12;
Reading speed	100ms per time(average), support reading continuously
Reading direction	360°
Reading angle	Center inclination angle: 46.2°; Center deviation angle: 43.2°
Field of view angle	Horizontalangle: 65.3°; Verticalangle: 55.8°; Fieldofviewangle79.5°
RF card reading parameters	
Identification card type	ISO 14443A protocol card, ISO 14443B protocol card
Operation card method	PhysicalUID, read and writeM1 card sector , read and writeCPU card file

RF operating frequency	13.56mhz
Reading effective distance	M1 card≤38mm; Dropper card≤21mm
PSAM card	
Protocol support	Complies with ISO7816-1/2/3 protocol, support T=0
Algorithm	Business secret

3.3.Electric parameters

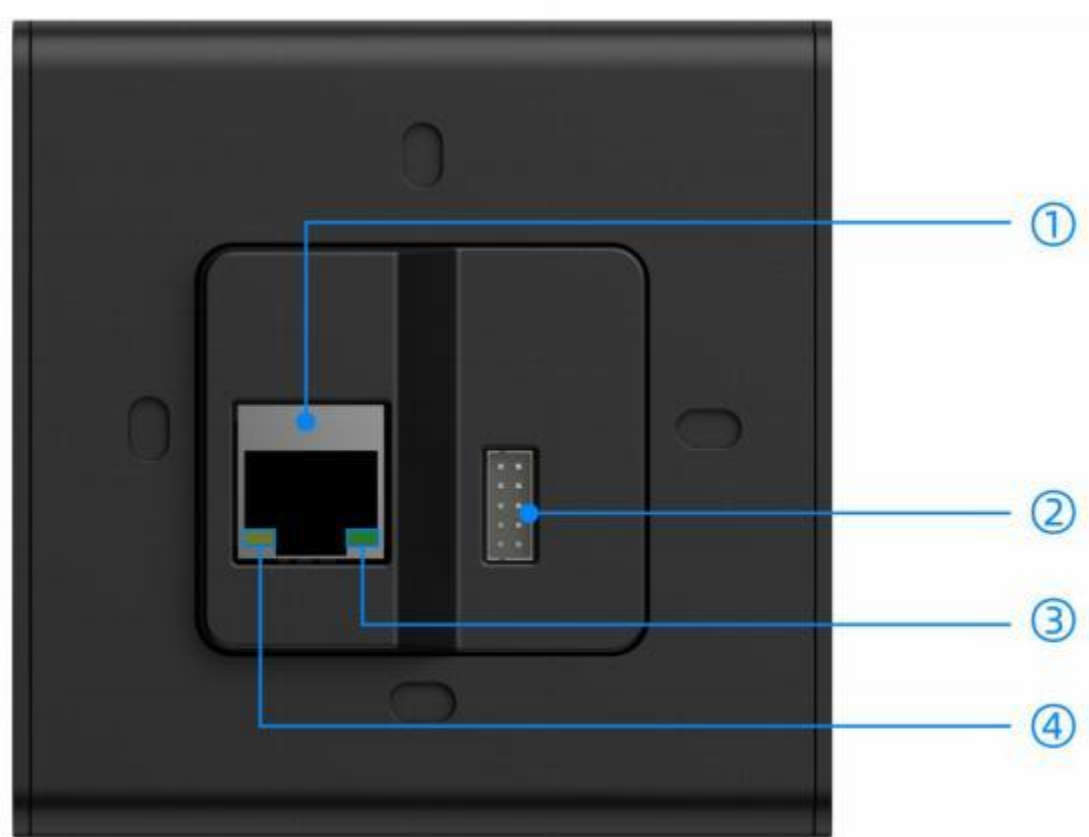
The power input can be provided only when the device is connected properly. If the device is plugged or unplugged while the cable is live (hot plugging), its electronic components will be damaged. Poor power connection, short interval power off/on operation, excessive voltage drop pulse may cause the device to be in a unstable and abnormal working state, it is necessary to maintain the stability of the power input. After turning off the power input, it takes more than 2 seconds to turn on the power input again.

Electric parameters	
Working voltage	DC 9V-15V， Typical DC12V
Working current	293mA(Typical 12V power supply)
Power consumption	3.52W(Typical 12V power supply)
Relay	DC 30V/1A

3.4.Working environment

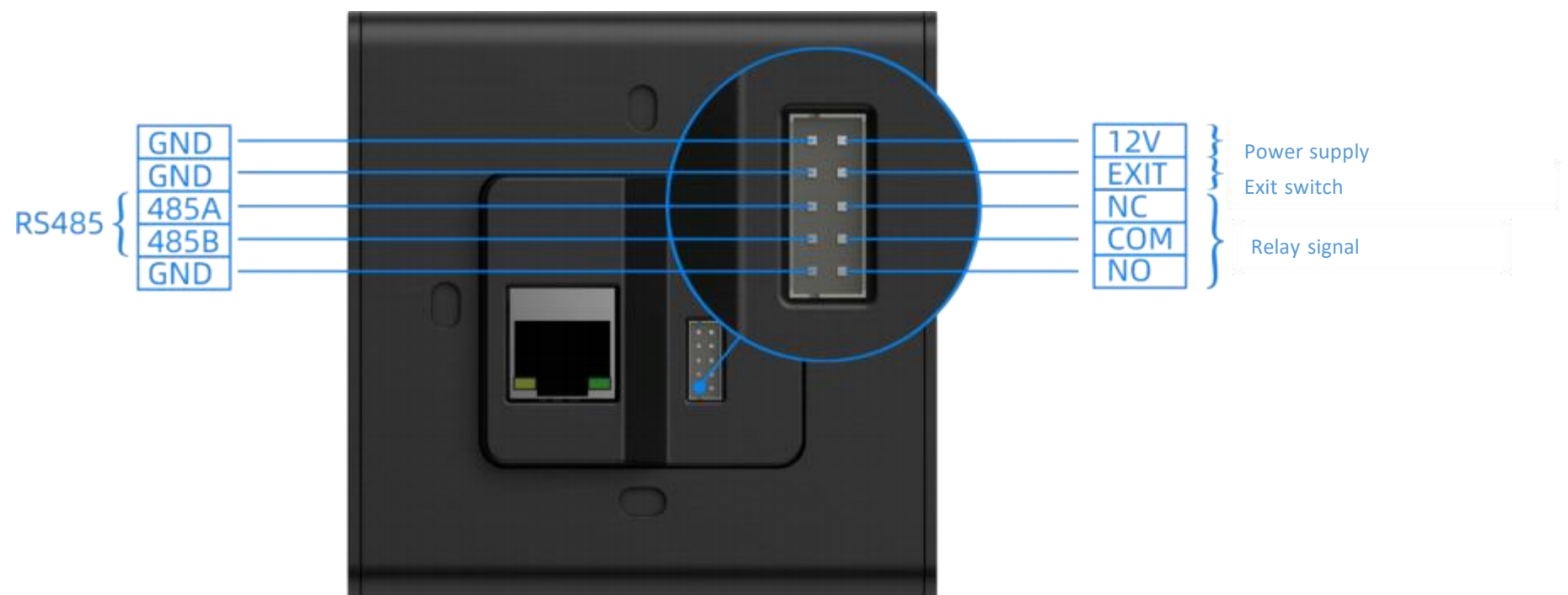
Working environment parameters	
ESD protection	±15kV（Air discharge）， ±4kV（Contact discharge）
Working temp	-20°C-60°C
Storage temp	-40°C-80°C
Relativehumidity	5%-95%（No condensation）（At room temperature）
Ambient light	0-80000Lux(Non direct sunlight)

4.Interface definition



① Standard 100 Mbps network interface

② Connect to the socket. Can connect access control components such as power supply, electromagnetic lock, and exit switch to form an access control system.



- ③ Green LED light. Constant light indicates that the 10M network connection is normal, and flashing indicates that the 10M network has data transmission and reception.
- ④ Yellow LED light. Constant light indicates that the 100M network connection is normal, and flashing indicates that the 100M network has data transmission and reception.

5.Mounting method

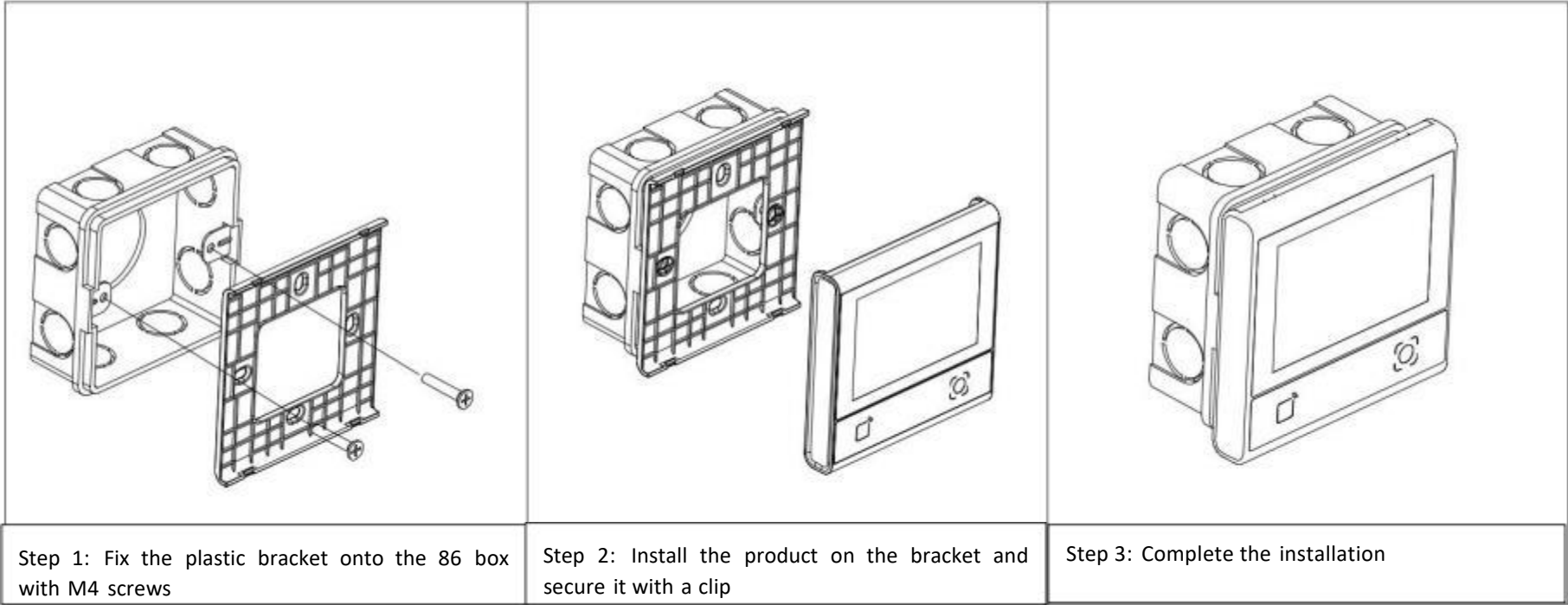
The product adopts CMOS image sensors, and the installation should avoid the reading window facing the sun, high-power lighting fixtures, and other strong light sources. Strong light sources can cause excessive contrast between the QR code in the image and the background, making it difficult to decode. Long term exposure can also damage the image sensor and cause device malfunction.

The reading window is made of tempered glass, which has good transparency and compressive and impact resistance. However, it is still necessary to avoid objects with higher hardness scratching tempered glass, which can reduce the recognition performance of the reader.

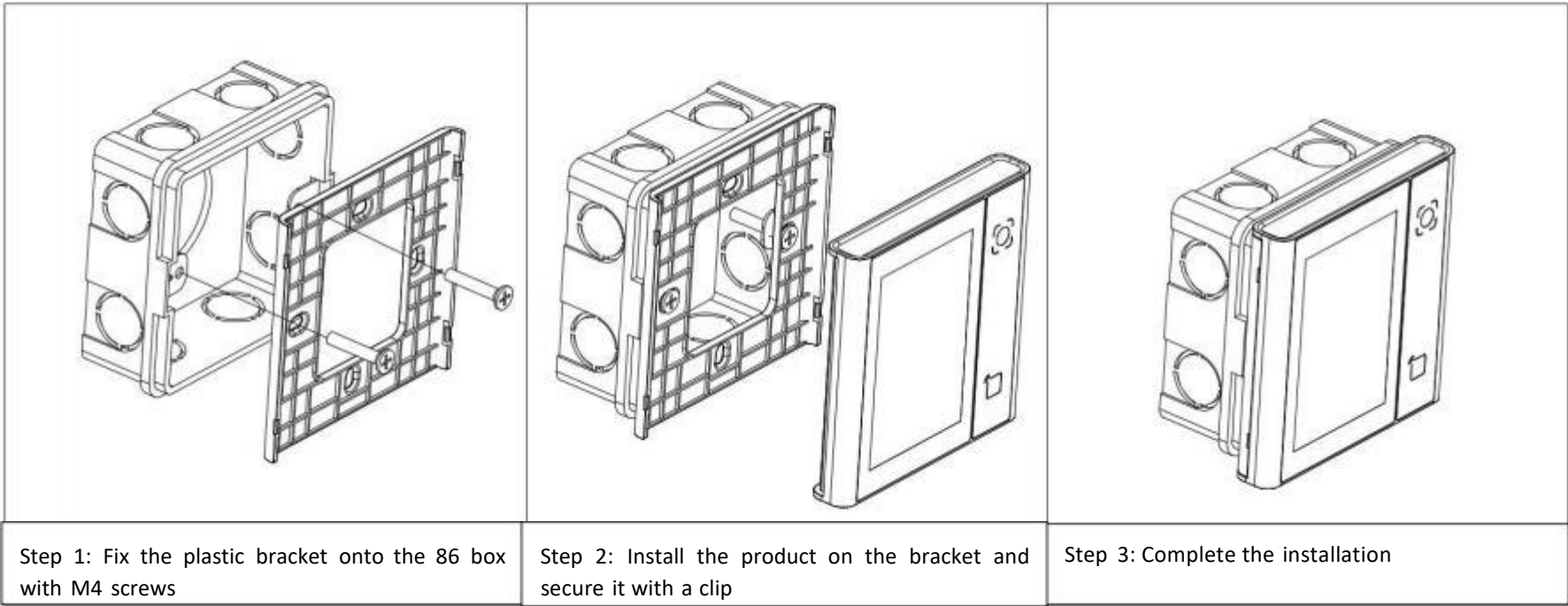
The RF card reading antenna is located below the reading window. During installation, metal and magnetic substances should be avoided within 10cm, otherwise it will seriously reduce card swiping performance.

5.1.86 box installation

DW200 Horizontal Installation Diagram

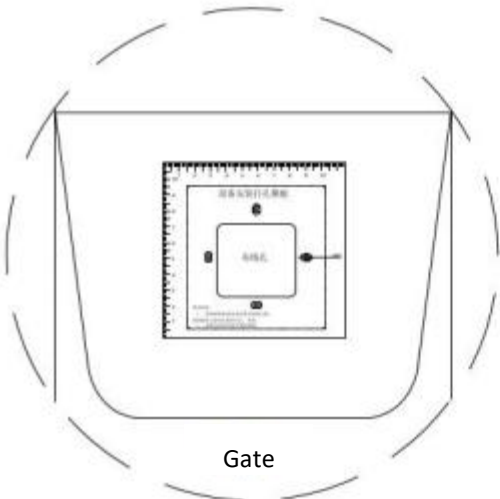
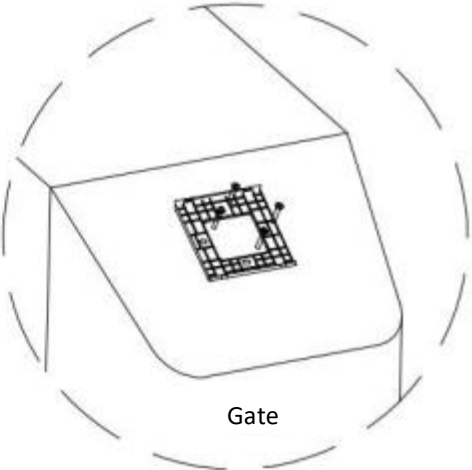
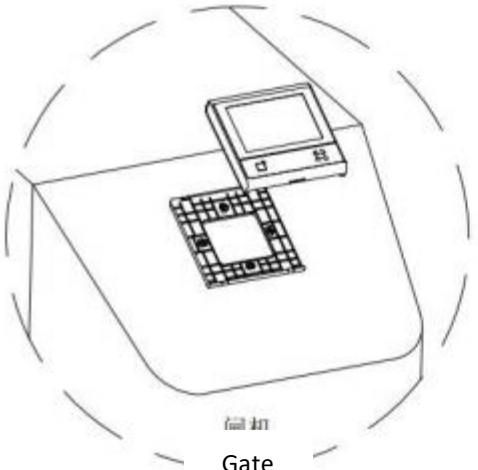
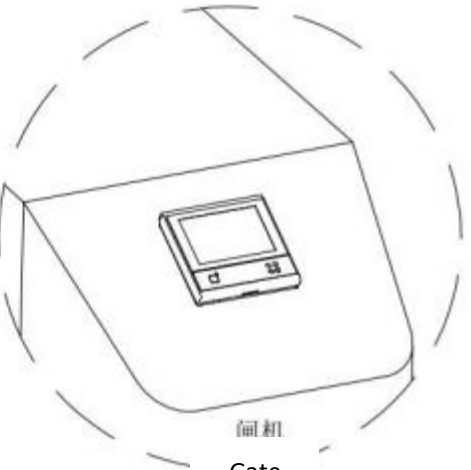


DW200 Vertical Installation Diagram



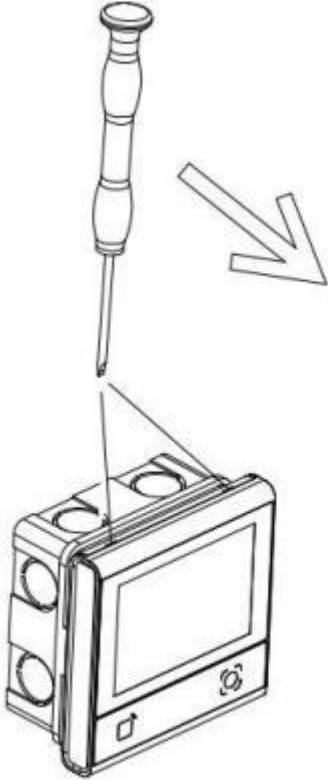
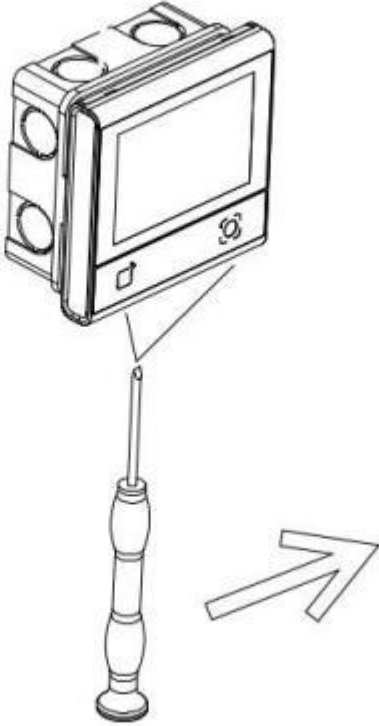
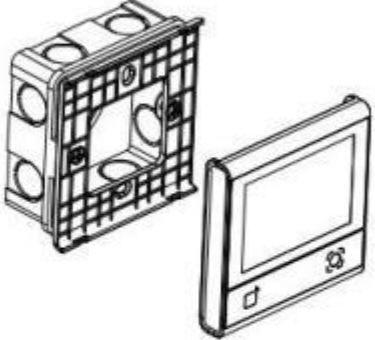
5.2.Non 86 box installation

Including gate machines, self-service machines, etc., holes need to be made on the casing of these machines before installation.

①  Gate 1.Place the punching sticker on the installation surface and punch and cut holes according to the identification	②  Gate 2. Fix the product bracket with M4 screws
③  Gate 3.Align the product with the bracket buckle and press the buckle to close	④  Gate 4. Complete the installation

5.3.Disassembly drawing

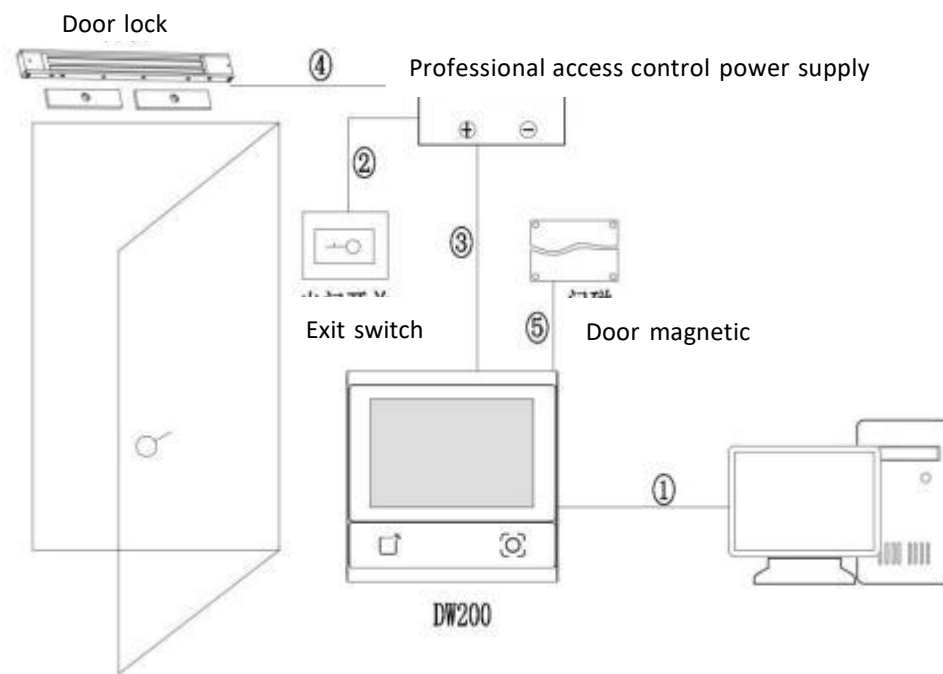
DW200 disassembly drawing

		
Step 1: Use a small flathead screwdriver to insert the top two clips and pry them open in the direction shown in the diagram	Step 2: Use a small flathead screwdriver to insert into the bottom two clips and pry them open in the direction shown in the diagram	Step 3: Complete disassembly

6.Application of access control scenarios

6.1.Independent use

1) This scenario mainly targets Ethernet DW200 devices, which connect to servers through a network to achieve online verification.



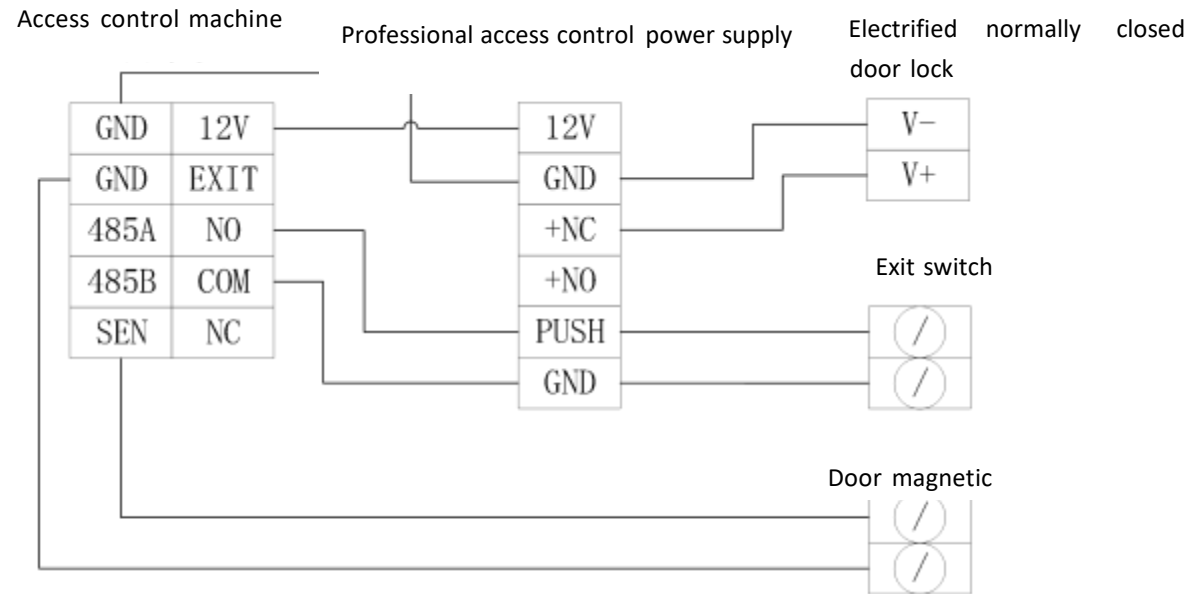
① The device is connected to the server management software through a network port and requires online verification of permissions.

② Connect the door switch to a professional access control power supply (or choose to connect to device) to achieve indoor door opening by pressing the button.

③ Device connected to professional access control power supply.

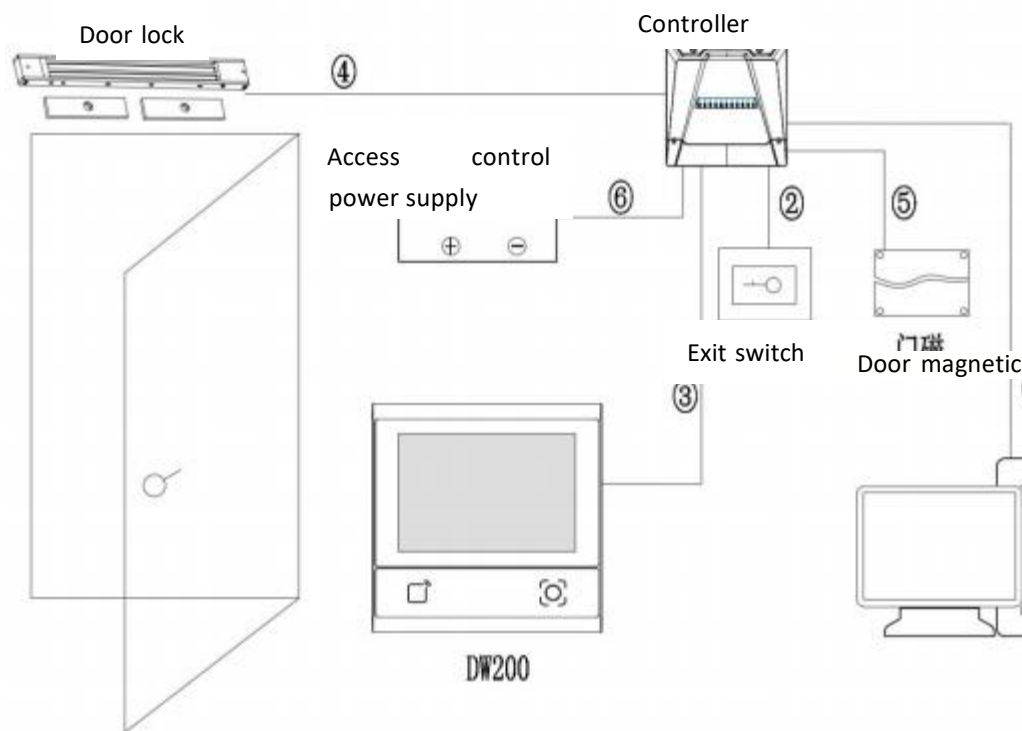
④ The electric lock is connected to a professional access control power supply, and after the permission of the access personnel is verified, the door lock is opened. ⑤ The device is connected to a door magnetic sensor to achieve monitoring of the door status.

2) Wiring diagram



6.2.Cooperating with the controller

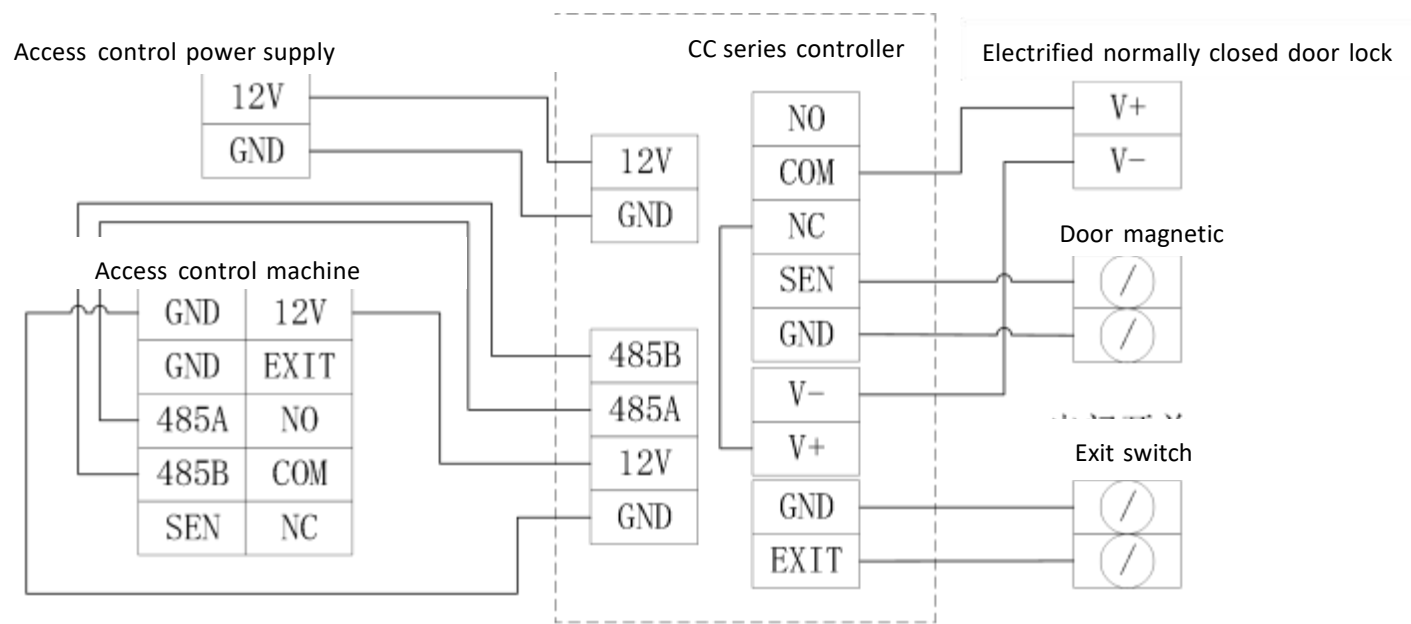
1) In this scenario, DW200 and the controller form an access control system. DW200 is connected to the controller through 485 protocol, and the access control controller achieves local and online door lock control.



- ① The controller is connected to the server management software through the network port to achieve local control and networked control.
- ② Connect the exit switch to open the door by pressing the button indoors. DW200
- ③ connected to controller through RS485.
- ④ The controller is connected to the electric lock, and the passing personnel swipe their credentials on DW200. After verifying their permissions through the controller, the controller controls the door lock to open the door.
- ⑤ The controller is connected to a door magnetic sensor to monitor the door status.

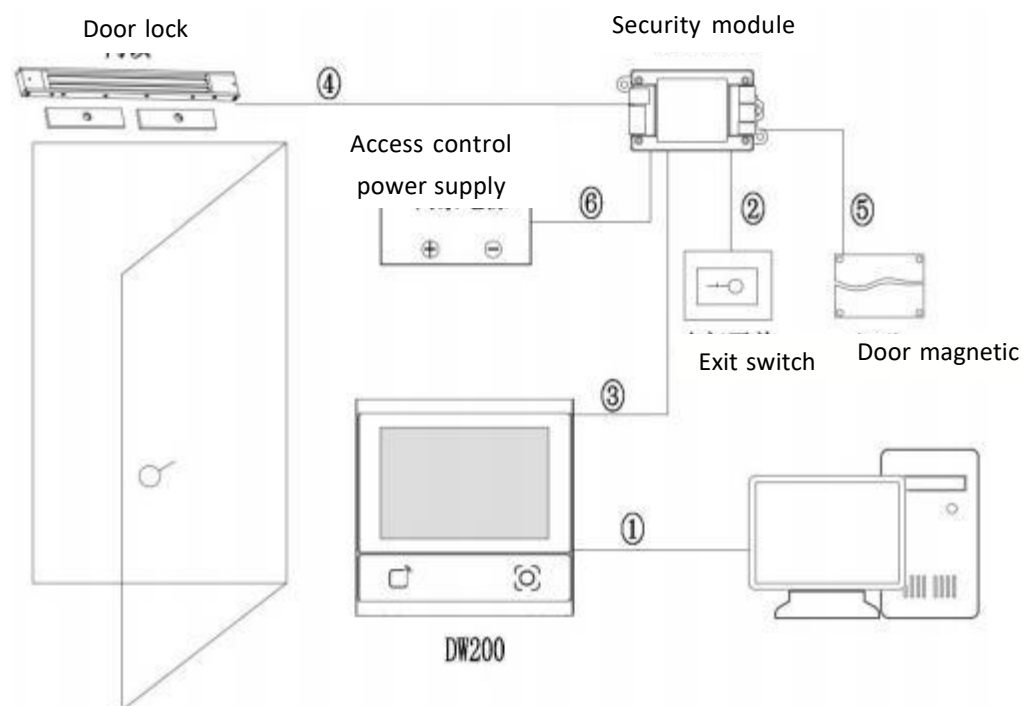
6 The controller is connected to a professional access control power supply, which supplies power to the controller. The controller supplies power to DW200, door locks, etc.

2) Wiring diagram



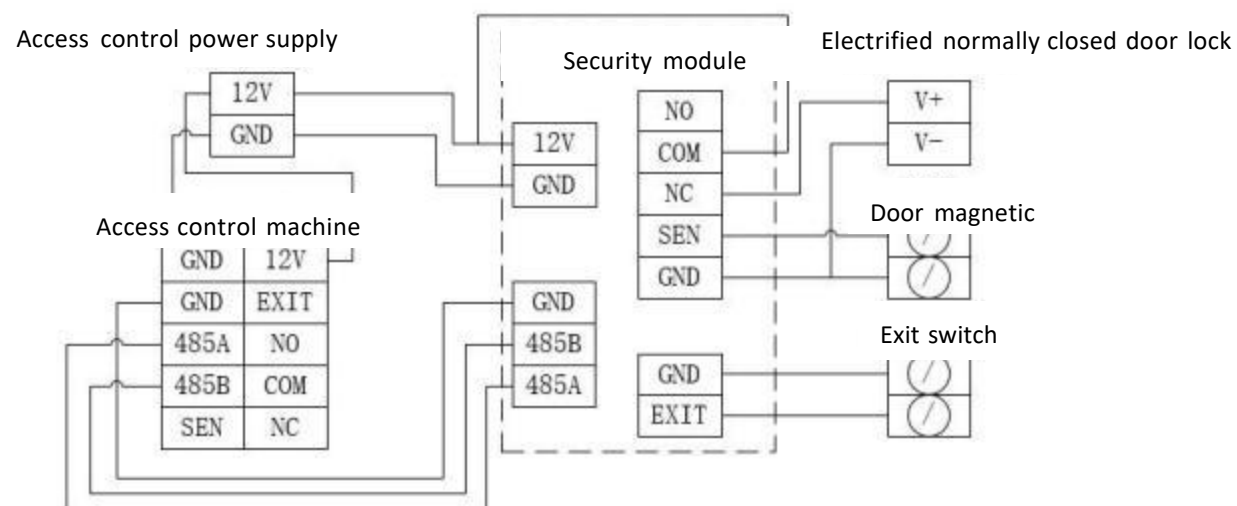
6.3.Cooperating with safety module

1) In this scenario, DW200 and the security module form a higher security access control system. DW200 connects to the server through network to achieve online verification, and then communicates with the security module through encrypted 485 protocol to achieve door lock control.



2) Wiring diagram

Typical applications are shown in the following figure. For more security applications, please refer to the SA100 product manual.



6.4. Wire selection

Signal	Soft sheathed wire		Network wire	
	Specifications	Maximum transmission distance	Specifications	Maximum transmission distance
Power cord	RVV2*1.0	100m	/	/
	RVV2*1.5	200m		
RS485	RVVSP3*0.5	1000m	Cat5e or above; Single line DC impedance less than 100 ohms/km	1000m
Exit switch	RVV2*0.5	100m	/	/
Relay signal	RVV2*0.5	100m	/	/

Note: The maximum transmission distance is a theoretical value, which may be shortened due to the influence of the on-site environment.

7.Device configuration

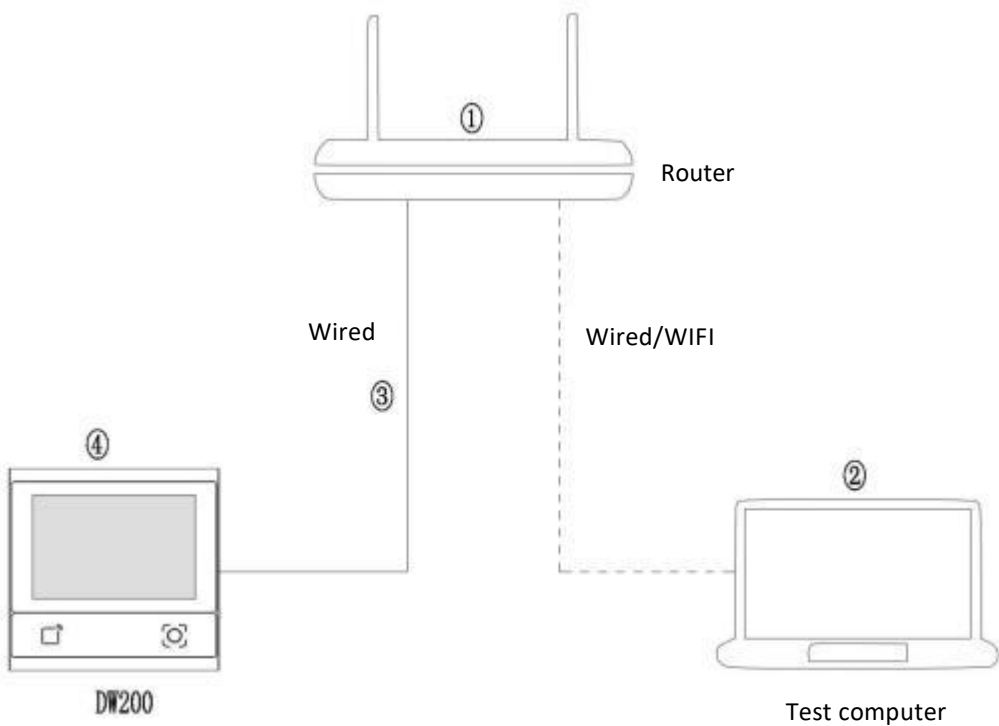
Use the VguangConfig tool to configure device, supporting online connection configuration and offline QR code generation configuration. For the usage process and specific configuration methods of configuration tools, please refer to the official website“**Vguang Configuration Tool User Manual**”.



5.1 Configuration tool icon

The following chapters introduce the process of device networking testing, and users need to focus on the following key parameters. The testing computer is used as a server in the chapter : the process only involves necessary networking operations. For detailed configuration required for the device, please refer to the configuration tool user manual.

7.1.Networking elements

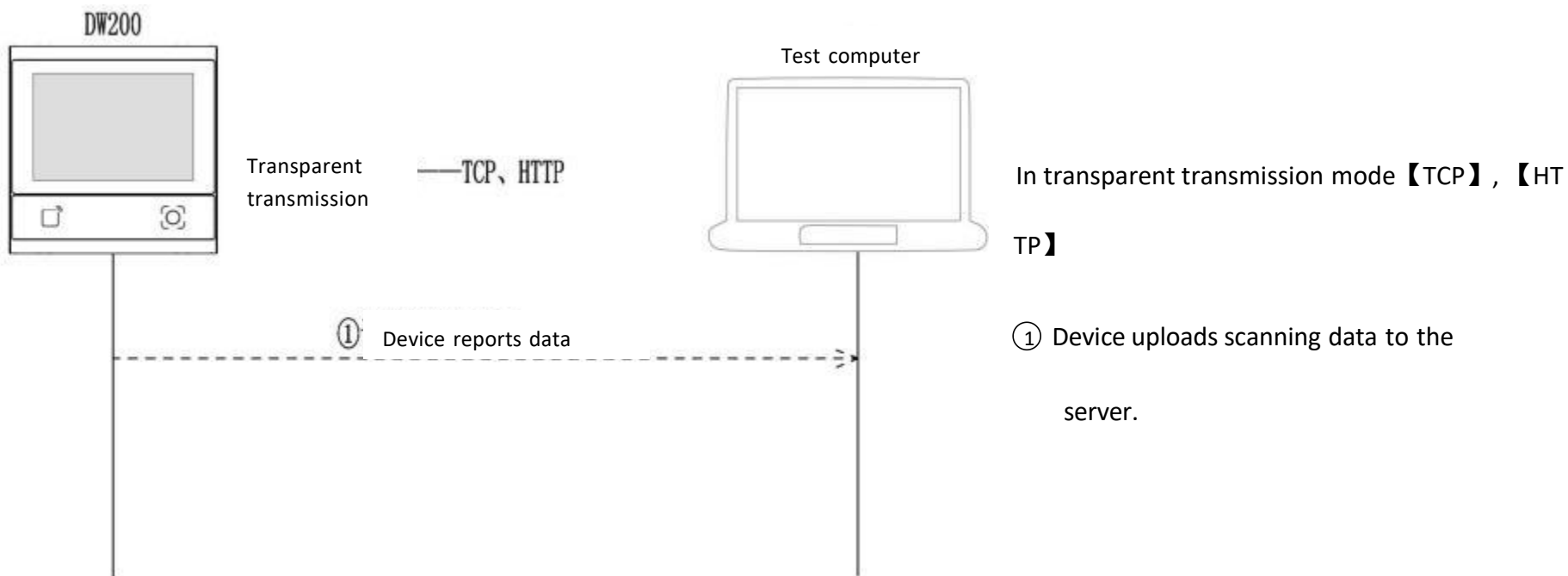


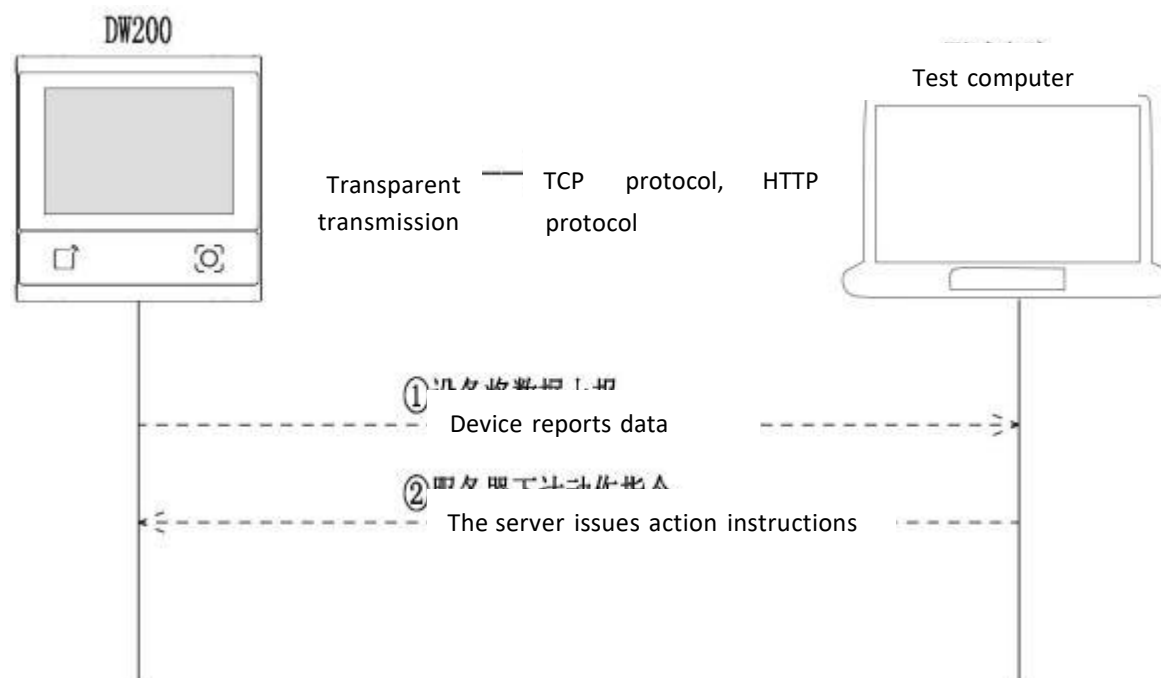
Key parameters for device networking debugging:

- ① Testing that the computer and device are on the same LAN.
- 2 Testing computer network parameters.
- ③ Device network parameters.
- ④ Device working mode configuration.

7.2.Protocol description

1) Transparent transmission mode

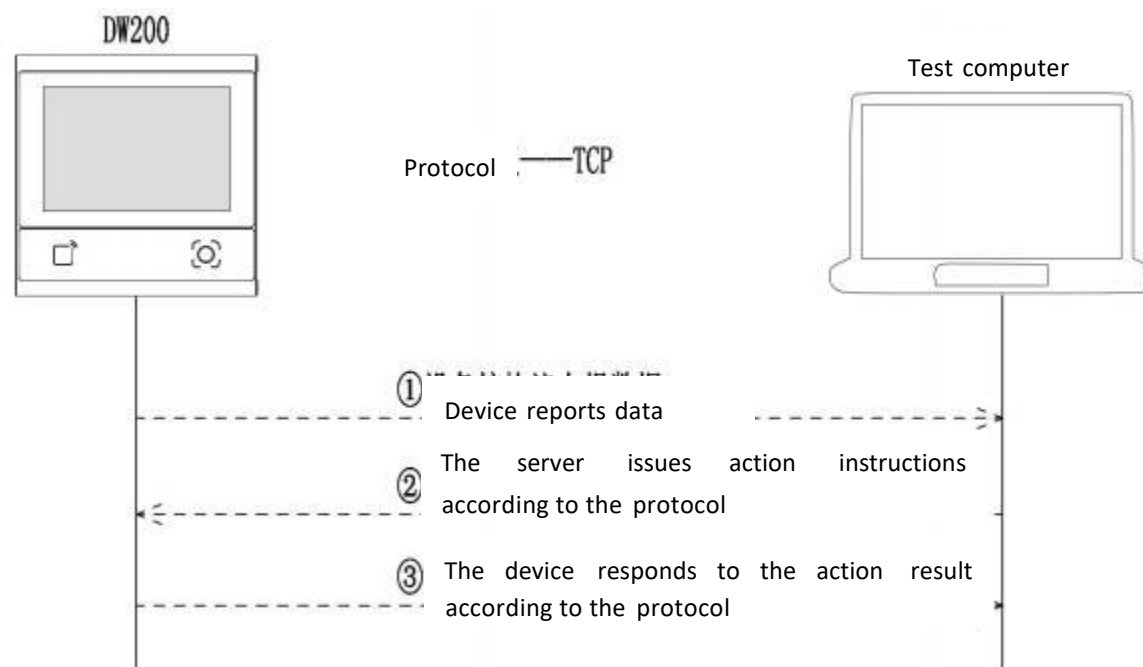




TCP protocol and HTTP protocol in transparent mode. For specific instructions, please refer to the official website "Vguang TCP/HTTP Communication Protocol"

- ① Device uploads scanning data to the server
- ② After the server receives the data, it returns the response content to the device, and the device takes actions based on the response content.

2) Protocol mode



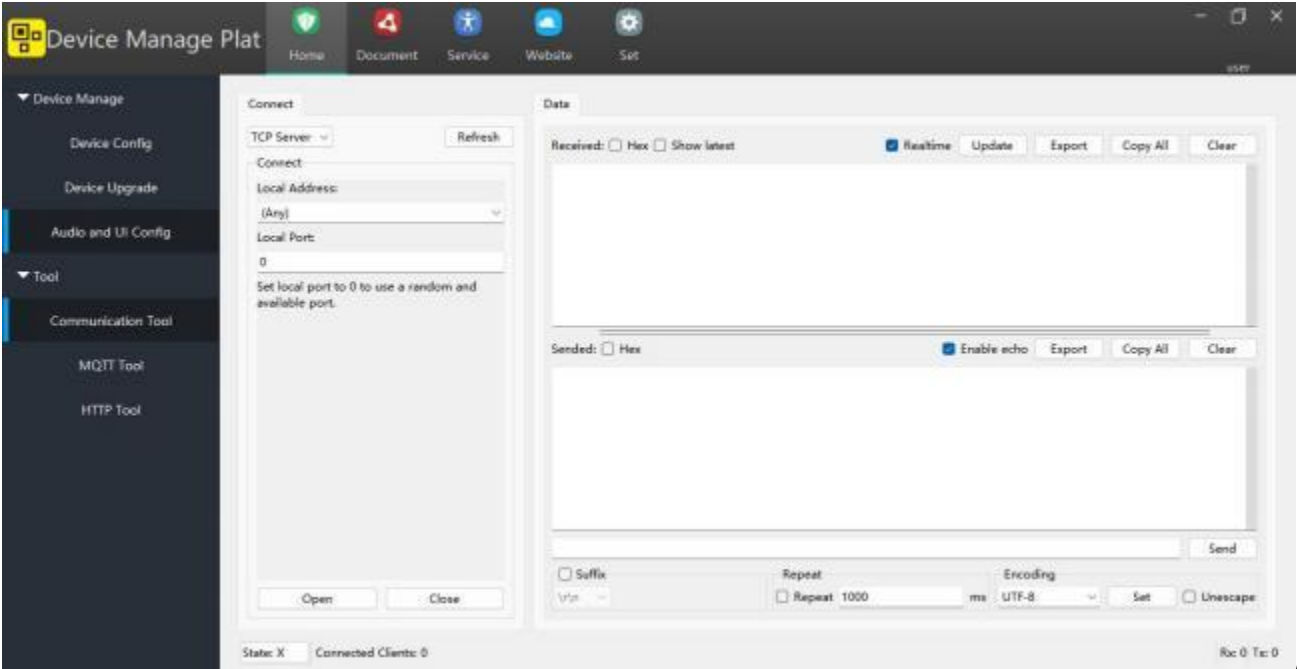
In the protocol mode [TCP], the protocol interaction follows the "Vguang QR Code Scanner Communication Protocol"

- 1 The device uploads scanning data to the server according to the protocol
- 2 After the server receives and parses the data according to the protocol, it issues action instructions according to the requirements.
- 3 The device takes corresponding actions based on the action instructions issued by the server.

7.3.Transparent transmission - TCP

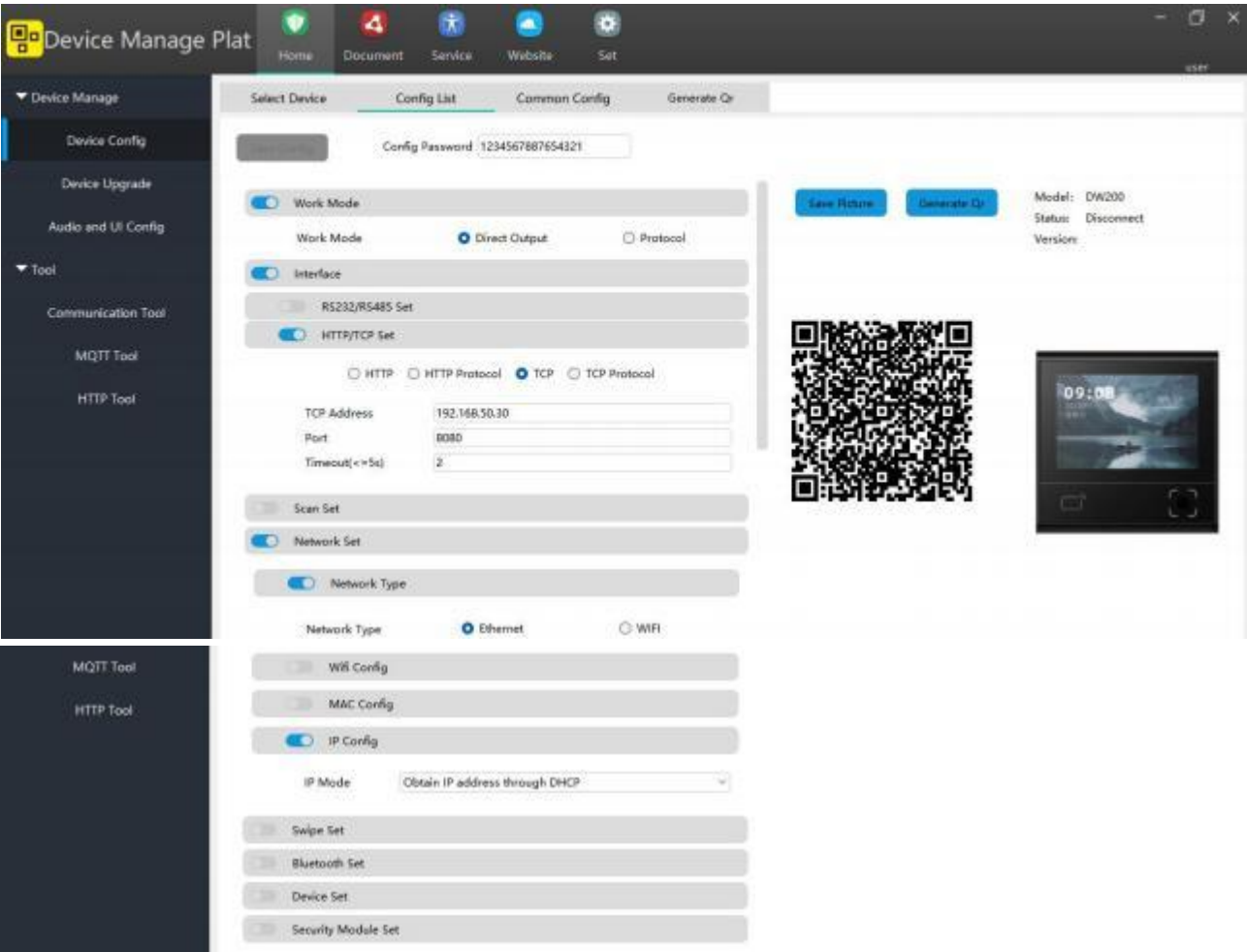
Step 1: Using a network cable to connect the device to a router that uses the same LAN as the computer.

Step 2: Set the test computer as a TCP server.



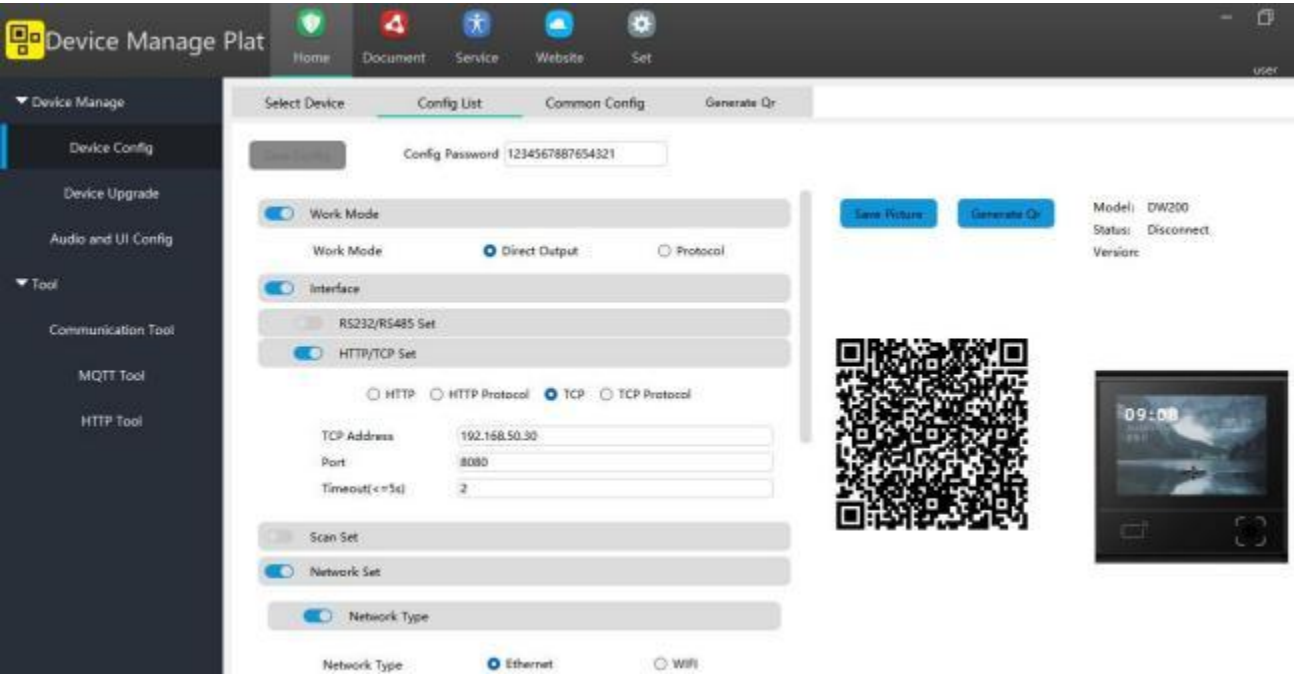
- ① In the debugging assistant - [Communication Tool], set server parameters: select TCP server,select local address IP,and port number 8080.
- ② Click [Open] to start the server.

Step 3: Set the device network parameters, and the device can be configured with dynamic IP address (recommended) and static IP address.



Dynamic IP address (recommended):

- ① Working mode selection 【 Direct Output 】
- 2 Set TCP server parameters:
【 Interface 】 - 【 HTTP/TCP Settings 】 , select 【 TCP 】
TCP address and port: Set to the local address IP and port values selected in step 2.
Timeout setting: 2
- ③ Set device network parameters:
【 Network Settings 】 - Network Type: Select 【 Ethernet 】
【 Network Settings 】 - 【 IP Config 】 - 【 IP Mode 】 : Select 【 Obtain IP Address through DHCP 】 , that is, the router dynamically assigns an IP address.
- ④ Generate configuration code. When the device scans the configuration code, the buzzer sounds twice, indicating successful configuration.



Static IP address:

- 1 Working mode selection 【 Direct Output 】
- 2 Set TCP server parameters:
【 Interface 】 - 【 HTTP/TCP Settings 】 , select 【 TCP 】
TCP address and port: Set to the local address IP and port values selected in step 2.
Timeout setting: 2
- ③ Set device network parameters:
【 Network Settings 】 - 【 Network Type 】 : Select 【 Ethernet 】
【 Network Settings 】 - 【 IP Config 】 - 【 IP Mode 】 : Select 【 Specify an IP Address 】 ;
IP address: It must be in the same network segment as the server address and cannot

▼ Tool

Communication Tool

MQTT Tool

HTTP Tool

Wifi Config

MAC Config

IP Config

IP Mode

Specify an IP address

IP Address

192.168.50.99

Subnet Mask

192.168.50.1

Gateway

255.255.255.0

DNS

101.198.198.198

Swipe Set

Bluetooth Set

Device Set

Security Module Set

Step 4: Test device

Device Manage Plat

Home Document Service Website Set

▼ Device Manage

Device Config

Device Upgrade

Audio and UI Config

▼ Tool

Communication Tool

MQTT Tool

HTTP Tool

Connect

TCP Server

Refresh

Connect

Local Address

192.168.50.30

Local Port

8080

Set local port to 0 to use a random and available port.

Open

Close

Data

Received: ☐ Hex ☐ Show latest

Realtime Update Export Copy All Clear

Sended: ☐ Hex

Enable echo Export Copy All Clear

☐ Suffix

Repeat

☐ Repeat 1000 ms

Encoding

UTF-8

Set

☐ Unescape

Send

State: ...

Local: (Any, 8080) Connected Clients: 0

Rx: 0 Tx: 0

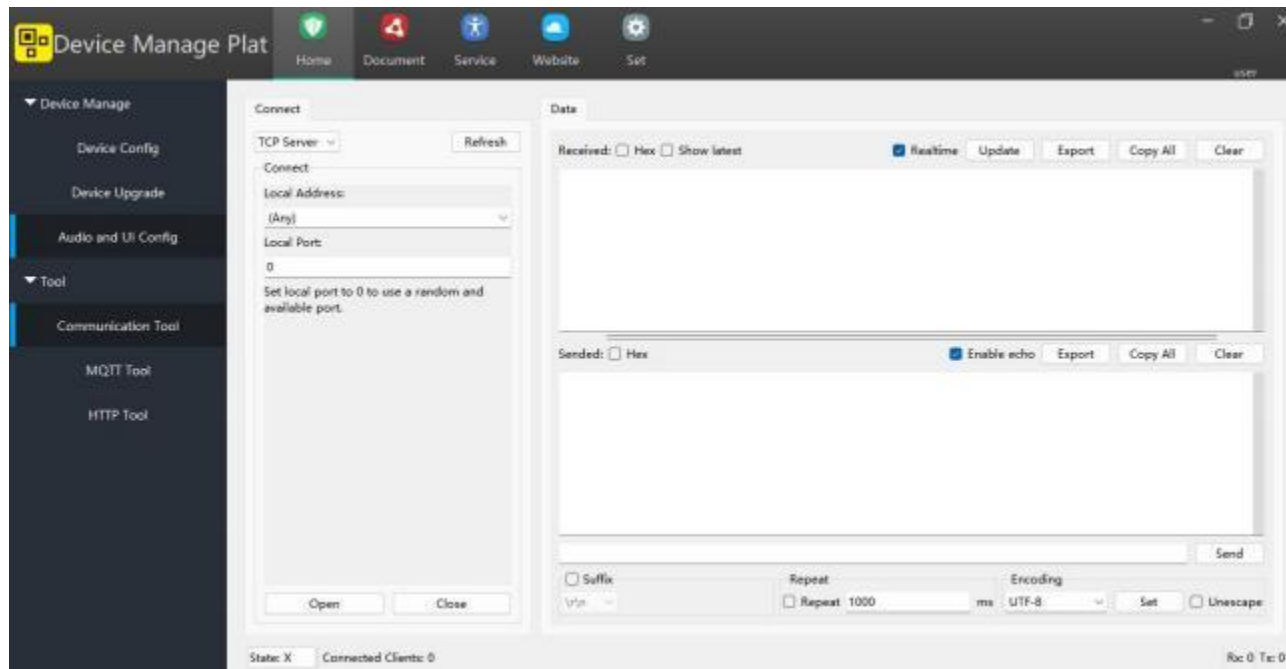
- conflict with the IP of other devices in the same local area network.
- Fill in the configuration based on the subnet mask, gateway,DNS,andother dataofthetest computer.
- 4 Generate configuration code. When the device scans the configuration code, the buzzer sounds twice, indicating successful configuration.

- 1 Switch to 【 Debugging Assistant 】 - 【 Communication Tool 】
- 2 After the device is successfully configured and connected to the server, the bottom left corner will display 【 Connected clients: 1 】
- ③ Scan the QR code on the device and the data receiving window will display the QR code data.

7.4.Transparent transmission - TCP protocol

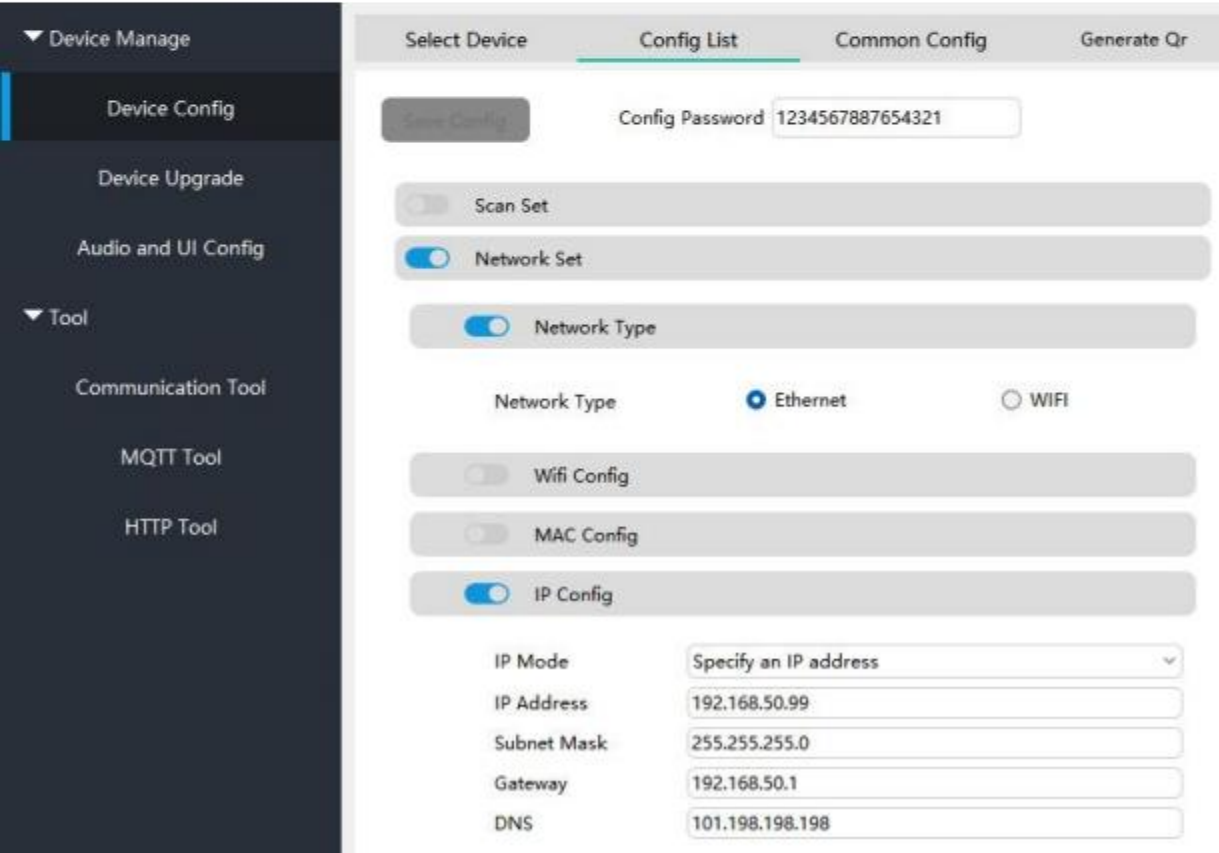
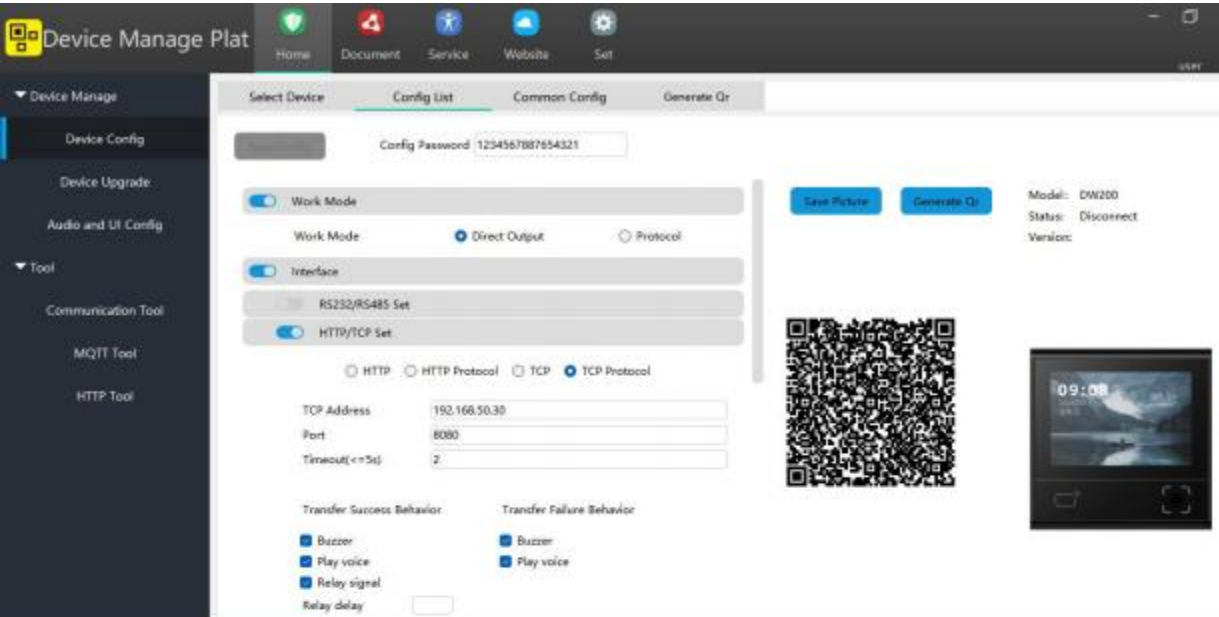
Step 1: Using a network cable to connect the device to a router that uses the same LAN as the computer.

Step 2: Set the test computer as a TCP server.



- ① In the debugging assistant - [Communication Tool], set server parameters: select TCP server, select local address IP, and port number 8080.
- ② Click [Open] to start the server.

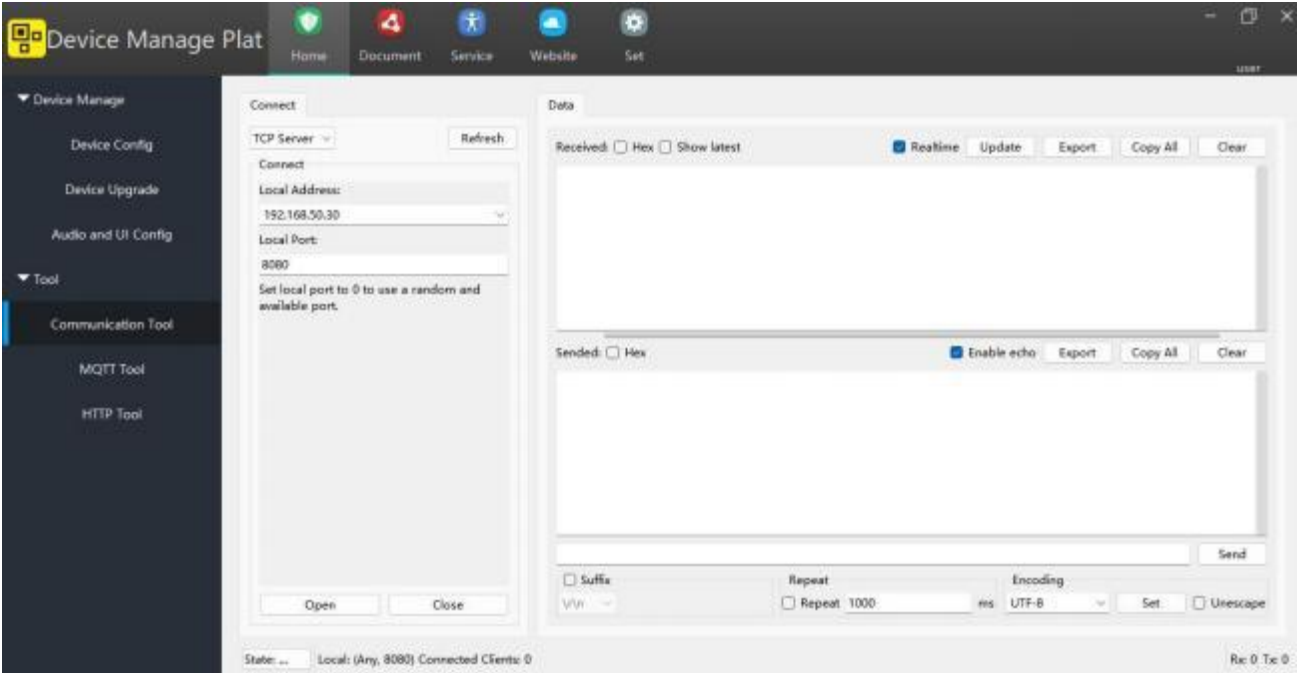
Step 3: Set the device network parameters, and the device can be configured with dynamic IP address (recommended) and static IP address.



Static IP address:

- 1 Working mode selection 【 Direct Output 】
- ② Set TCP server parameters:
 - 【 Interface 】 - 【 HTTP/TCP Settings 】 , select 【 TCP Protocol 】 ;
 - TCP address and port: Set to the local address
 - IP and port values selected in step 2。 Timeout setting:2;
 - Transfer success behavior and transfer failure behavior: Keep default。
- ③ Set device network parameters:
 - 【 Network Settings 】 - 【 Network Type 】 : Select 【 Ethernet 】
 - 【 Network Settings 】 - 【 IP Config 】 - 【 IP Mode 】 : Select 【 Specify an IP Address 】 ;
 - IP address: It must be in the same network segment as the server address and cannot conflict with the IP of other devices in the same local area network;
 - Fill in the configuration based on the subnet mask, gateway, DNS, and other data of the test computer.
- ④ Generate configuration code. When the device scans the configuration code, the buzzer sounds twice, indicating successful configuration.

Step 4: Test device

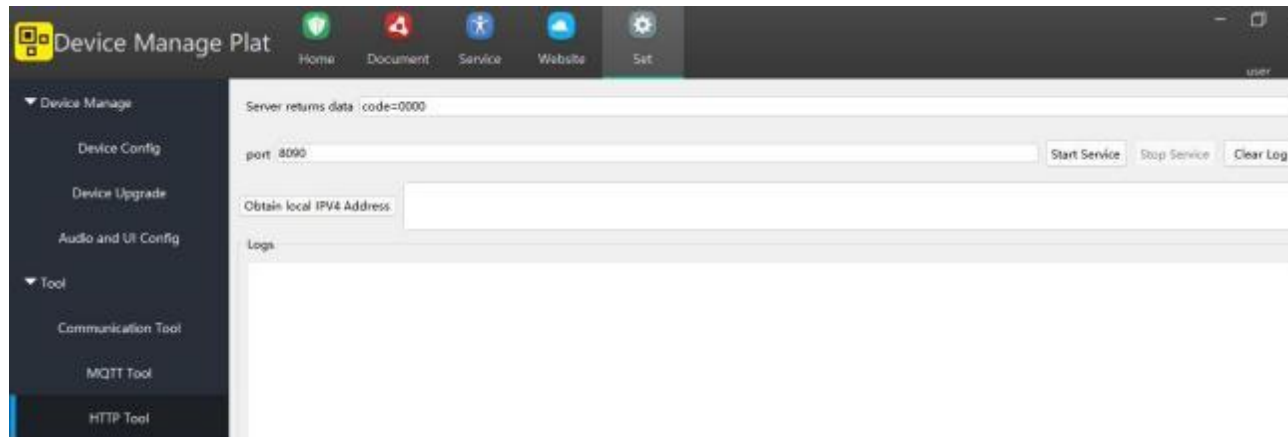


- ① Switch to 【 Debugging Assistant 】 - 【 Communication Tool 】
- ② After the device is successfully configured and connected to the server, the bottom left corner will display 【 Connected clients: 1 】 Scan the QR code on the device and the data receiving window will display the QR code data.
- ③ After receiving the scanning data, the server sends a successful response data 【 code=0000 】 , and the device will sound a buzzer, broadcast voice, and activate the relay according to the successful behavior in step 3.

7.5.Transparent transmission - HTTP

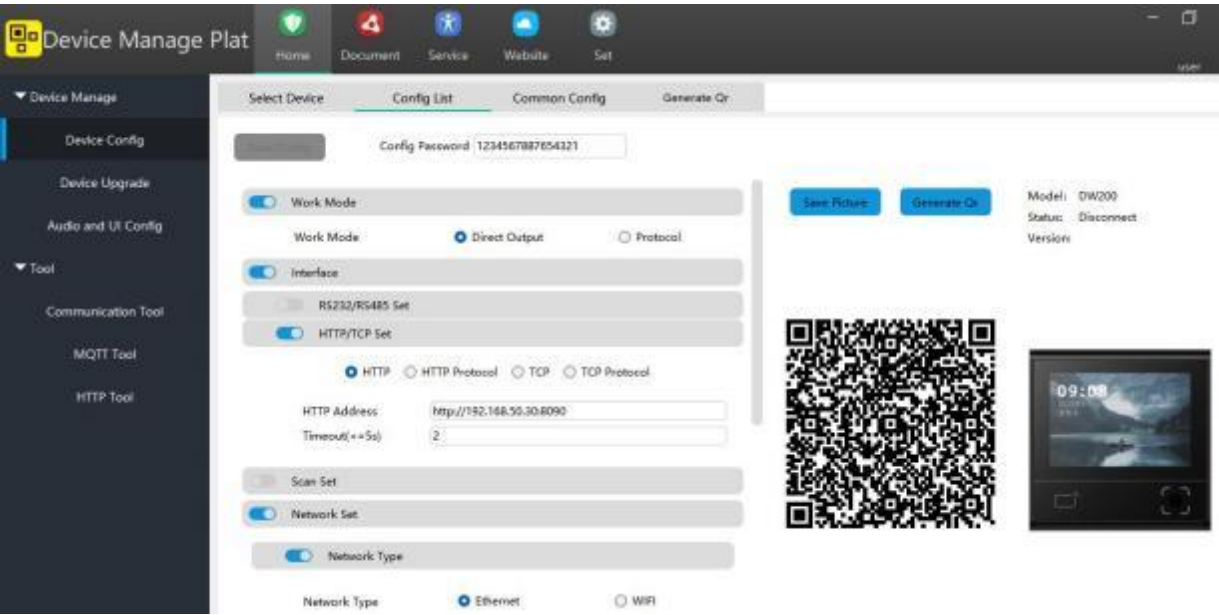
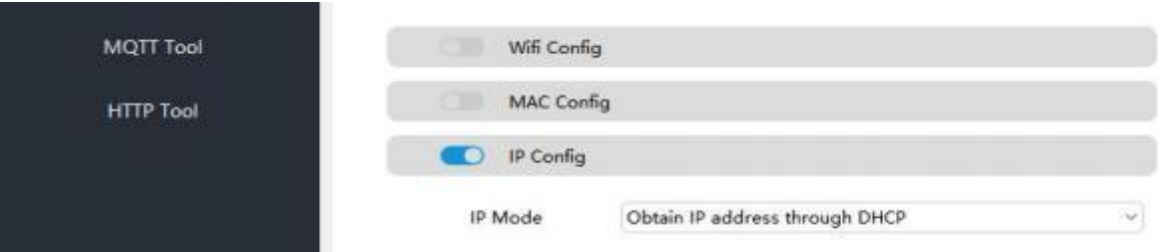
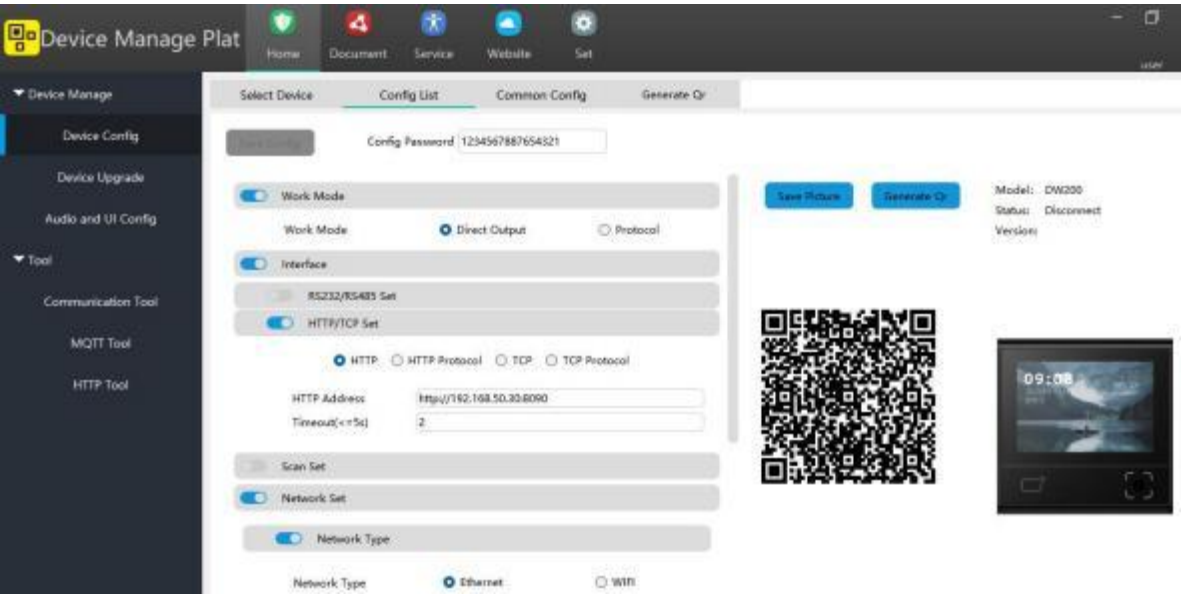
Step 1: Using a network cable to connect the device to a router that uses the same LAN as the computer

Step 2: Set the test computer as an HTTP server



- ① In the debugging assistant-HTTPTool, set the return value (not required in HTTP mode) and port number (required). Leave default settings here.
- 2 Click **【Start Service】** to enable listening.

Step 3: Set the device network parameters, and the device can be configured with dynamic IP address (recommended) and static IP address.



Dynamic IP address (recommended):

- ① Working mode selection 【 Direct Output 】
- 2 Set HTTP server parameters:
 - 【 Interface 】 - 【 HTTP/TCP Settings 】 , select 【 HTTP 】 ;
 - The HTTP address format is : http://[Local address]:[Port]
 - For example 【http://192.168.50.30:8090】
 - Timeout setting:2
- 3 Set device network parameters:
 - 【 NetworkSettings 】 - 【 NetworkType 】 :Select 【 Ethernet 】
 - 【 Network Settings 】 - 【 IP Config】 - 【 IP Mode 】 : Select 【 Obtain IP Address through DHCP 】 , that is, the router dynamically assigns an IP address.
- ④ Generate configuration code. When the device scans the configuration code, the buzzer sounds twice, indicating successful configuration.

Static IP address:

- ① Working mode selection 【 Direct Output 】
- ② Set HTTP server parameters:
 - 【 Interface 】 - 【 HTTP/TCP Settings 】 , select 【 HTTP 】 ;
 - The HTTP address format is: http://[Local address]:[Port]
 - For example 【http://192.168.50.30:8090】
 - Timeout setting:2
- 3 Set device network parameters:
 - 【 Network Settings 】 - 【 Network Type 】 : Select 【 Ethernet 】
 - 【 Network Settings】 - 【 IP Config】 - 【 IP Mode】 : Select 【 Specify an IP Address】 ;
 - IP address: It must be in the same network

▼ Tool

Communication Tool

MQTT Tool

HTTP Tool

Wifi Config

MAC Config

IP Config

IP Mode

IP Address

Subnet Mask

Gateway

DNS

Specify an IP address

192.168.50.31

255.255.255.0

192.168.50.1

101.198.198.198

Step 4: Test device

Device Manage Plat

Home Document Service Website Set

▼ Device Manage

Device Config

Device Upgrade

Audio and UI Config

▼ Tool

Communication Tool

MQTT Tool

HTTP Tool

Server returns data code=0000

port 0000

Obtain local IPV4 Address

Start Service Stop Service Clear Log

Logs

segment as the server address and cannot conflict with the IP of other devices in the same local area network;

Fill in the configuration based on the subnet mask, gateway, DNS, and other data of the test computer。

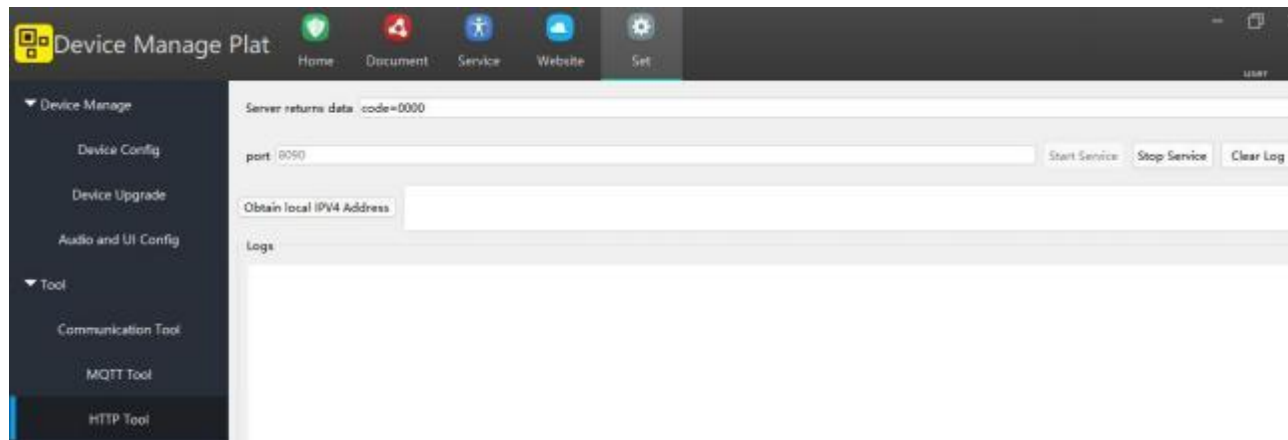
- ④ Generate configuration code. When the device scans the configuration code, the buzzer sounds twice, indicating successful configuration。

- ① Switch to debugging assistant - HTTP Tool
- ② Scan the QR code on the device and the data receiving window will display the QR code data
- ③ After the server receives the code scanning data, the debugging tool will automatically send the response data 【code=0000】 , and the device will not parse under 【HTTP】 , so the device has no action.

7.6.Transparent transmission - HTTP protocol

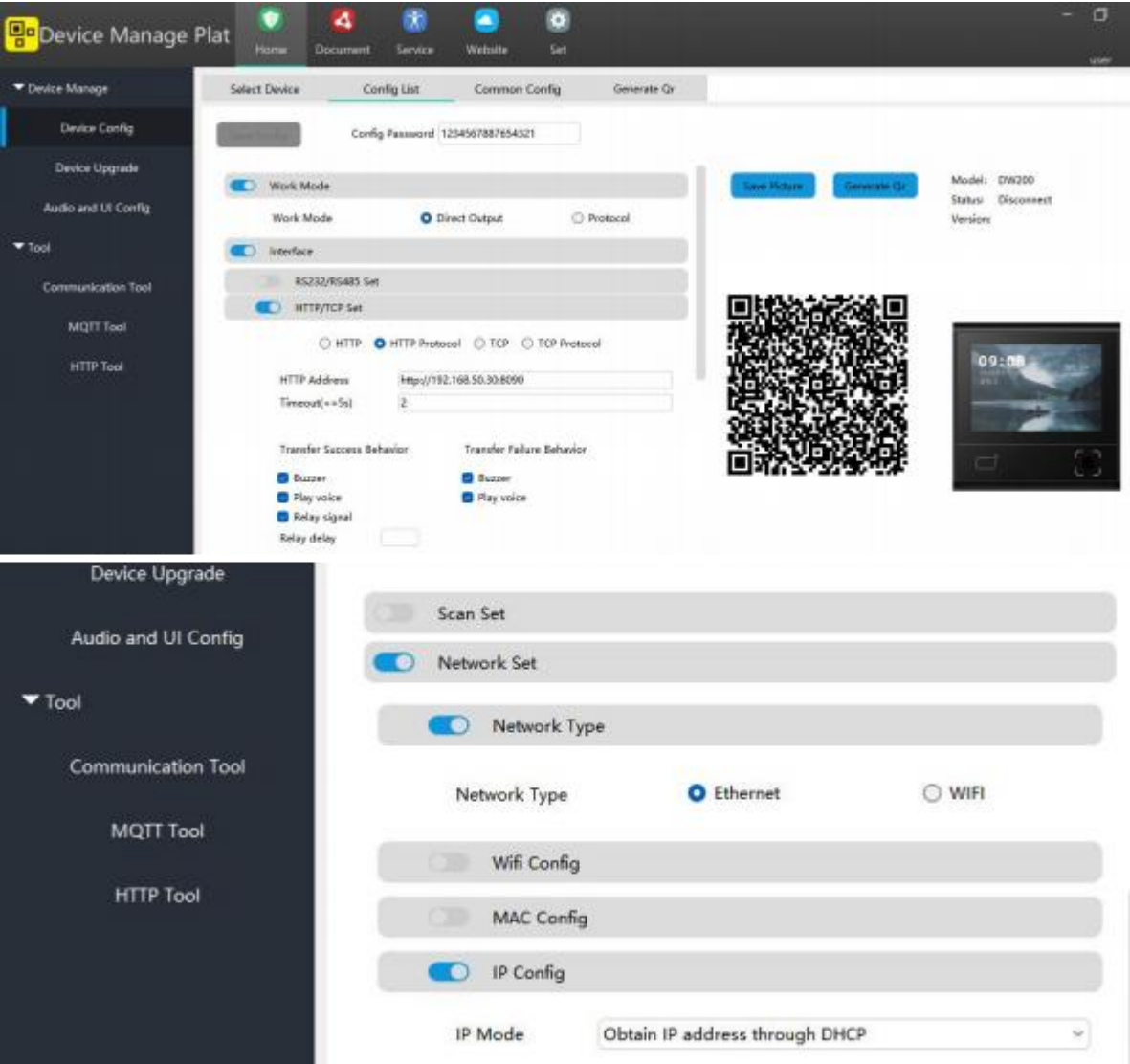
Step 1: Using a network cable to connect the device to a router that uses the same LAN as the computer

Step 2: Set the test computer as an HTTP server



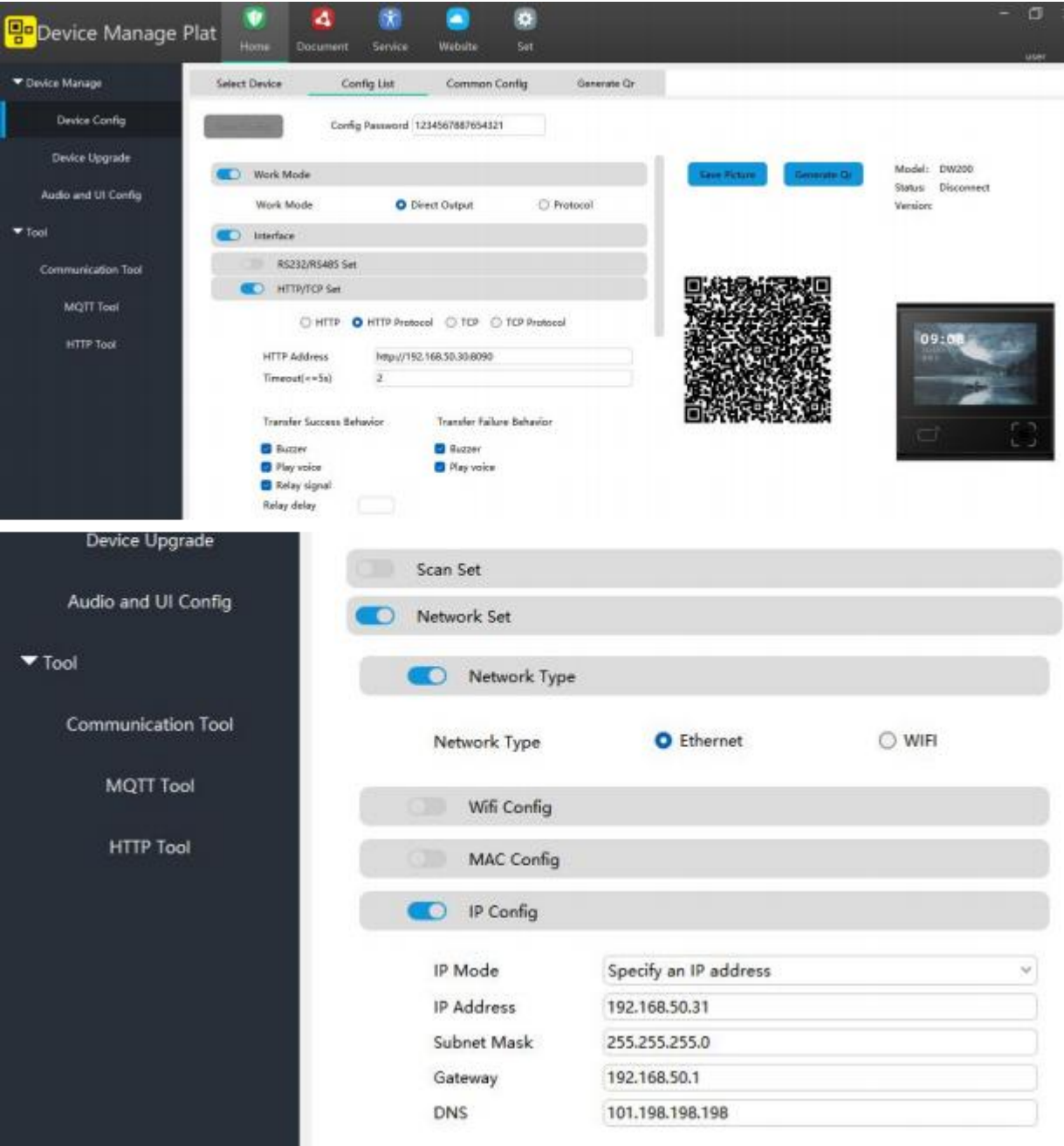
- ① In the debugging assistant - HTTP tool, set the return value and port number. Leave the default here.
- ② Click **【Start Service】** to enable listening.

Step 3: Set the device network parameters, and the device can be configured with dynamic IP address (recommended) and static IP address.



Dynamic IP address (recommended):

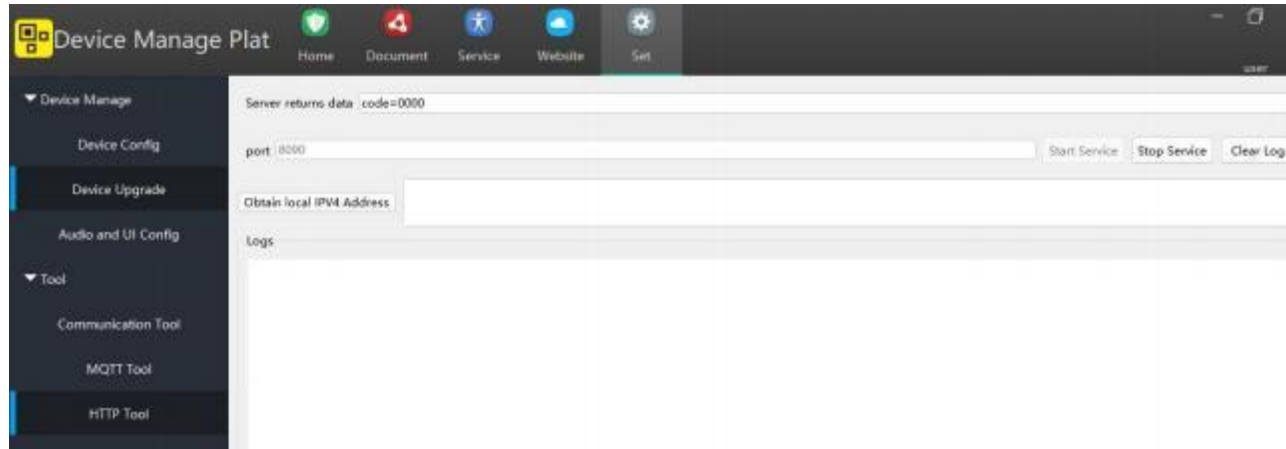
- ① Working mode selection 【 Direct Output】
- ② Set HTTP server parameters:
 - 【 Interface 】 - 【 HTTP/TCPSettings 】 ,select 【 HTTP Protocol 】
 - The HTTP address format is : http://[Local address]:[Port]
 - For example 【http://192.168.50.30:8090】
 - Timeout setting:2
 - Transfer success behavior and transfer failure behavior: Keep default.
- ③ Set device network parameters:
 - 【 NetworkSettings 】 - 【 NetworkType 】 :Select 【 Ethernet 】
 - 【 Network Settings 】 - 【 IP Config】 - 【 IP Mode 】 : Select 【 Obtain IP Address through DHCP 】 , that is, the router dynamically assigns an IP address.
- ④ Generate configuration code. When the device scans the configuration code, the buzzer sounds twice, indicating successful configuration.



Static IP address:

- ① Working mode selection 【 Direct Output 】
- 2 Set HTTP server parameters:
 - 【 Interface 】 - 【 HTTP/TCPSettings 】 ,select 【 HTTP Protocol 】 ;
 - The HTTP address format is : http://[Local address]:[Port]
 - For example 【http://192.168.50.30:8090】
 - Timeout setting:2
 - Transfer success behavior and transfer failure behavior: Keep default.
- ③ Set device network parameters:
 - 【 NetworkSettings 】 - 【 NetworkType 】 :Select 【 Ether net 】
 - 【NetworkSettings】 - 【IPConfig】 - 【IPMode】 : Select 【Specify an IP Address】 ;
 - IP address: It must be in the same network segment as the server address and cannot conflict with the IP of other devices in the same local area network; Fill in the configuration based on the subnet mask, gateway, DNS, and other data of the test computer.
- ④ Generate configuration code. When the device scans the configuration code, the buzzer sounds twice, indicating successful configuration.

Step 4: Test device

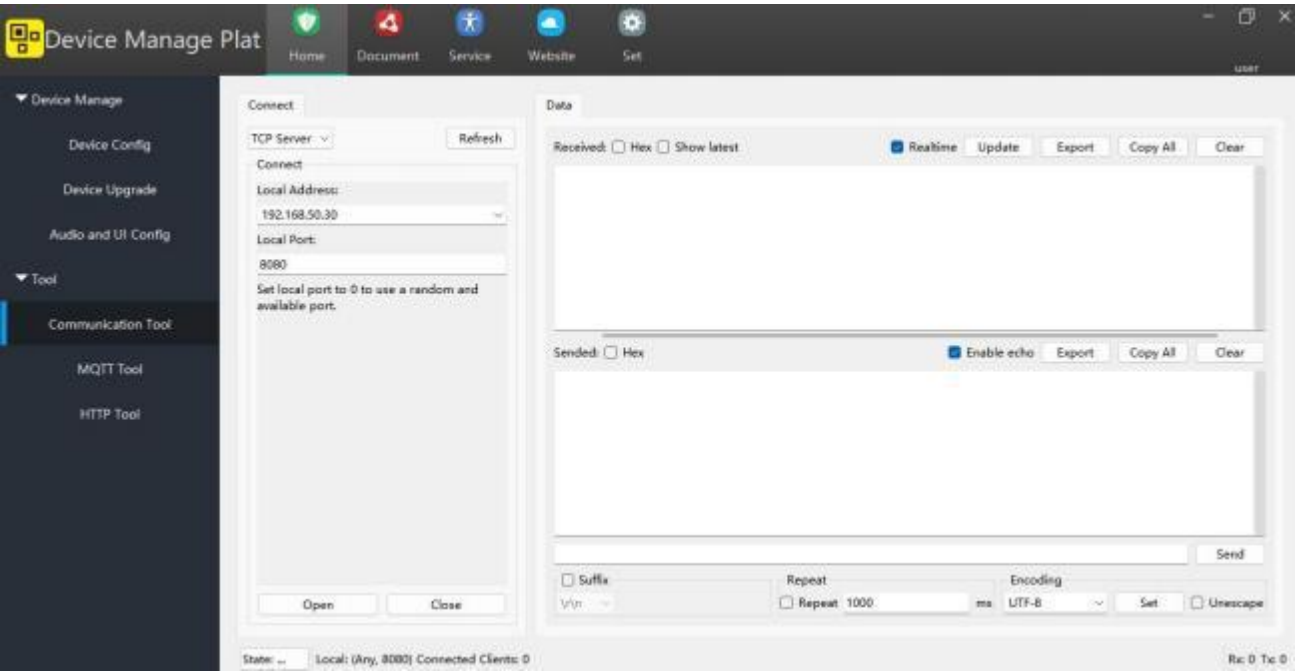


- ① Switch to debugging assistant - HTTP Tool
- ② Scan the QR code on the device and the data receiving window will display the QR code data
- ③ After the server receives the code scanning data, the debugging tool will automatically send the successful response data [code=0000], and the device will sound the buzzer, broadcast voice and turn on the relay according to the successful behavior in step 3.

7.7.Protocol (TCP)

Please refer to the official website "Vguang Network Device Interface Specification" for protocol mode description.

Step 1: Using a network cable to connect the device to a router that uses the same LAN as the computer Step 2: Set the test computer as a TCP server

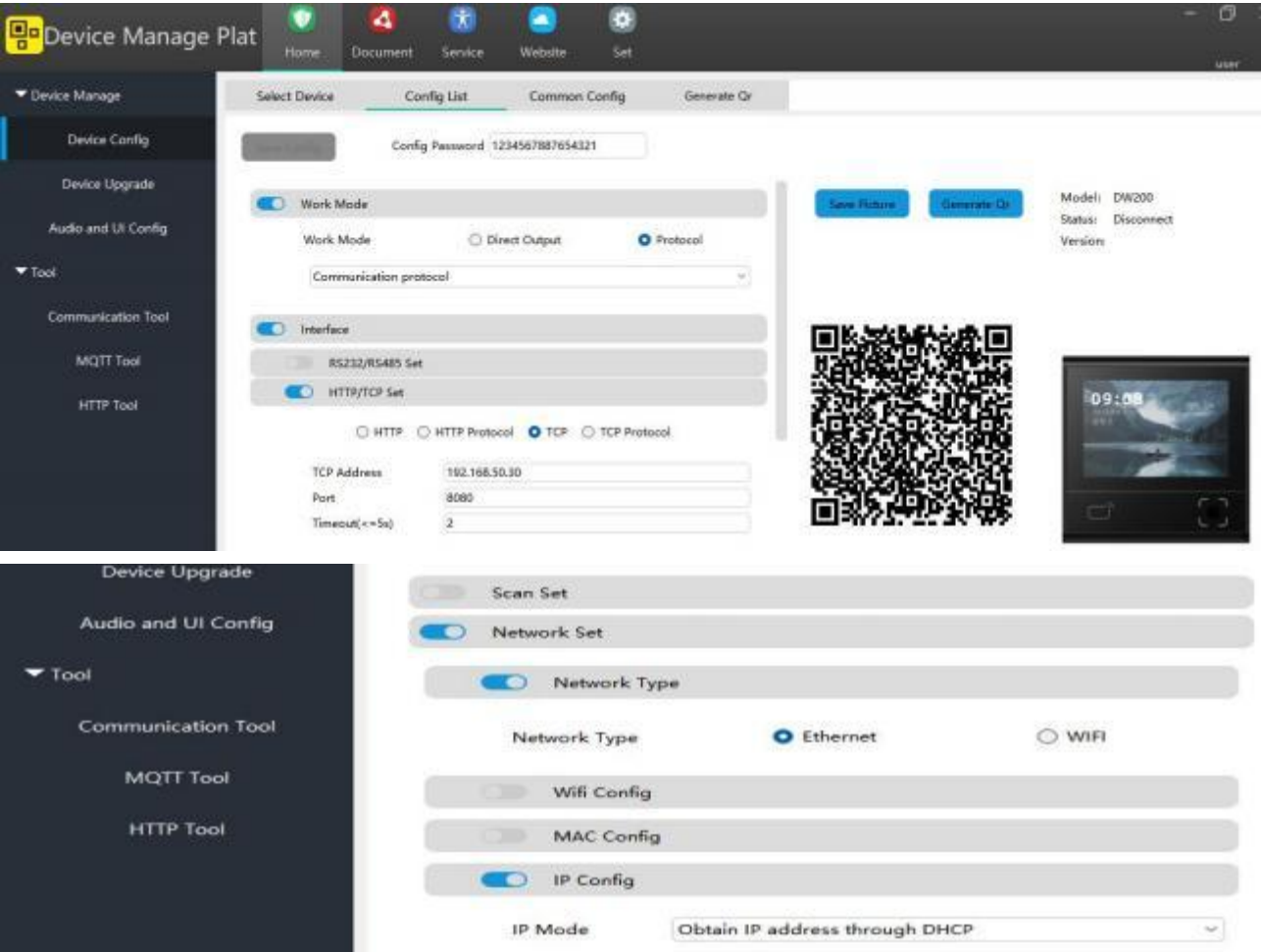


① Set server parameters in the debugging

assistant- communication tool: Select TCP server,
select Local address IP, port
number 8080

2 Click 【Open】 to start the server

Step 3: Set the device network parameters, and the device can be configured with dynamic IP address (recommended) and static IP address.



Dynamic IP address (recommended):

1 Work mode selection 【 Protocol 】

② Set TCP server parameters:

【 Interface 】 - 【 HTTP/TCP Settings 】 , select 【 TCP 】

TCP address and port: Set to the local address IP and port values selected in step 2.

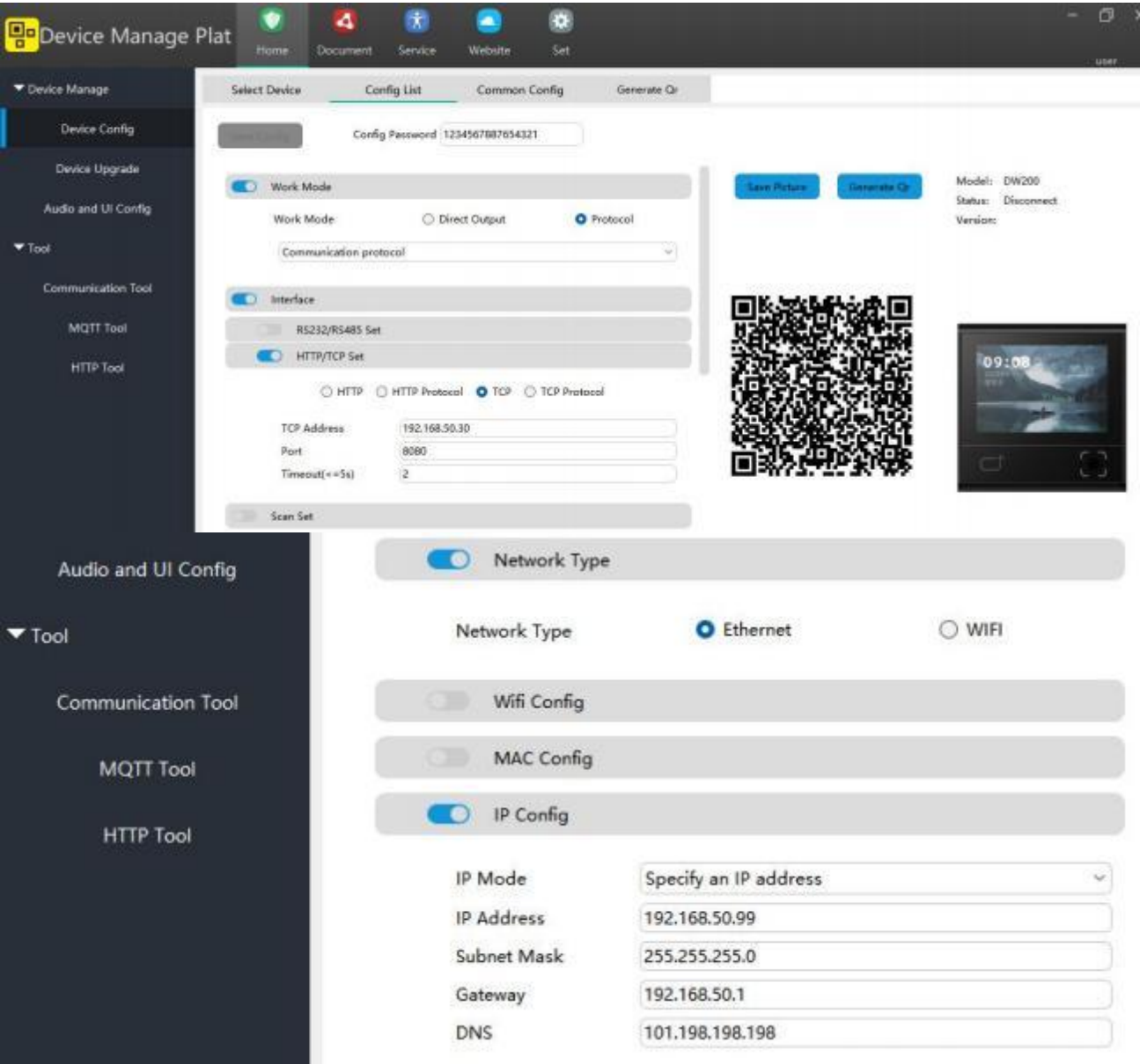
Timeout setting: 2

3 Set device network parameters:

【 Network Settings 】 - 【 Network Type 】 :
Select 【 Ethernet 】

【 Network Settings 】 - 【 IP Config 】 - 【 IP Mode 】 : Select 【 Obtain IP address through DHCP 】 , that is, the router dynamically assigns an IP address.

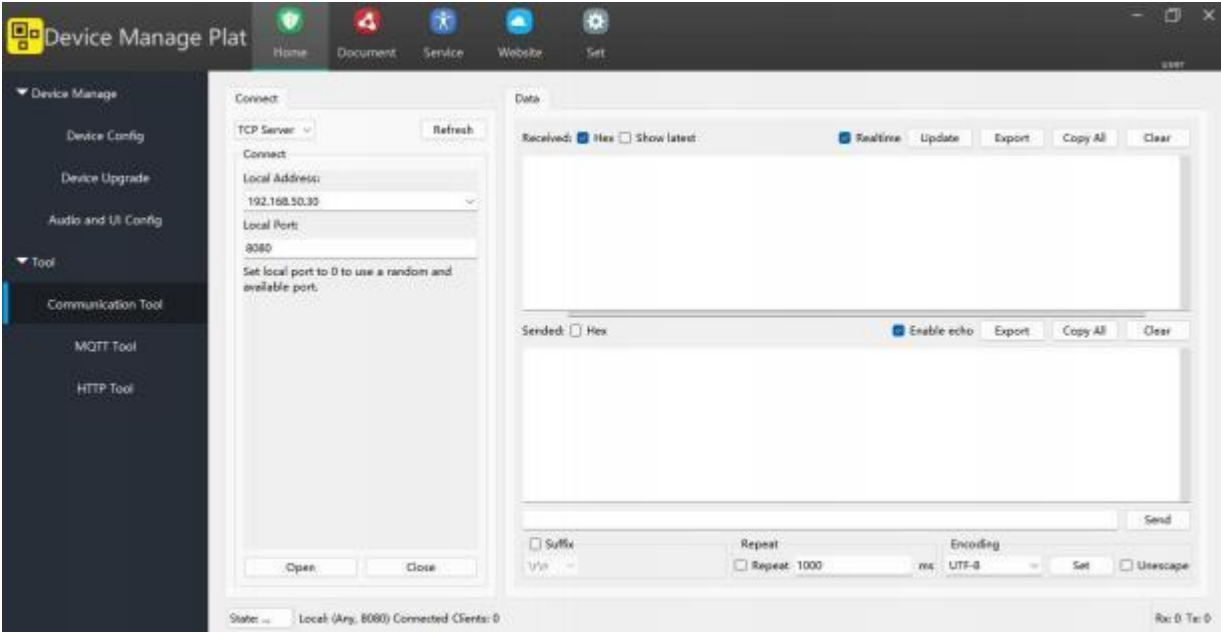
④ Generate configuration code. When the device scans the configuration code, the buzzer sounds twice, indicating successful configuration.



Static IP address:

- 1 Working mode selection 【 Direct Output】
- ② Set TCP server parameters:
 - 【 Interface 】 - 【 HTTP/TCPSettings 】 , select 【 TCP 】
 - TCP address and port: Set to the local address IP and port values selected in step 2
 - Timeout setting: 2
- 3 Set device network parameters:
 - 【 NetworkSettings 】 - 【 NetworkType 】 : Select 【 Ethernet 】
 - 【 NetworkSettings 】 - 【 IPConfig 】 - 【 IP Mode 】 : Select 【 Specify an IP Address 】 , ; IP address: It must be in the same network segment as the server address and cannot conflict with the IP of other devices in the same local area network; Fill in the configuration based on the subnet mask, gateway, DNS, and other data of the test computer.
- 4 Generate configuration code. When the device scans the configuration code, the buzzer sounds twice, indicating successful configuration.

Step 4: Test device



- ① Switch to debugging assistant - Communication Tool
- ② After the device is successfully configured and connected to the server, [Connected Clients: 1] will be displayed in the bottom left corner, and check the [Hex] on the receive window.
- ③ Scan the QR code (example data bit 123) on the device, and the receiving window displays the QR code hexadecimal data according to the Vguang communication protocol.

55 aa	30 00	03 00	31 32 33 fc	
I	II	III	IV	V VI

I : Command head

; II : Command word;

III: Identification word; IV

: Length word;

V : Data field, converted to ASCII as 123; VI:

Check word

- 4 Send the command "Buzzer sounds three times, with a time of 4 seconds and an interval of 0.5 seconds" to the device. The command data is 55 AA 04 05 00 08 03 50 0A 00 AF. After the device successfully receives it, the buzzer sounds three times.
- ⑤ After the device responds successfully, report the successful command to the server 55 AA 04 00 00 00 FB.

7.8.Security module mode

Instructions:

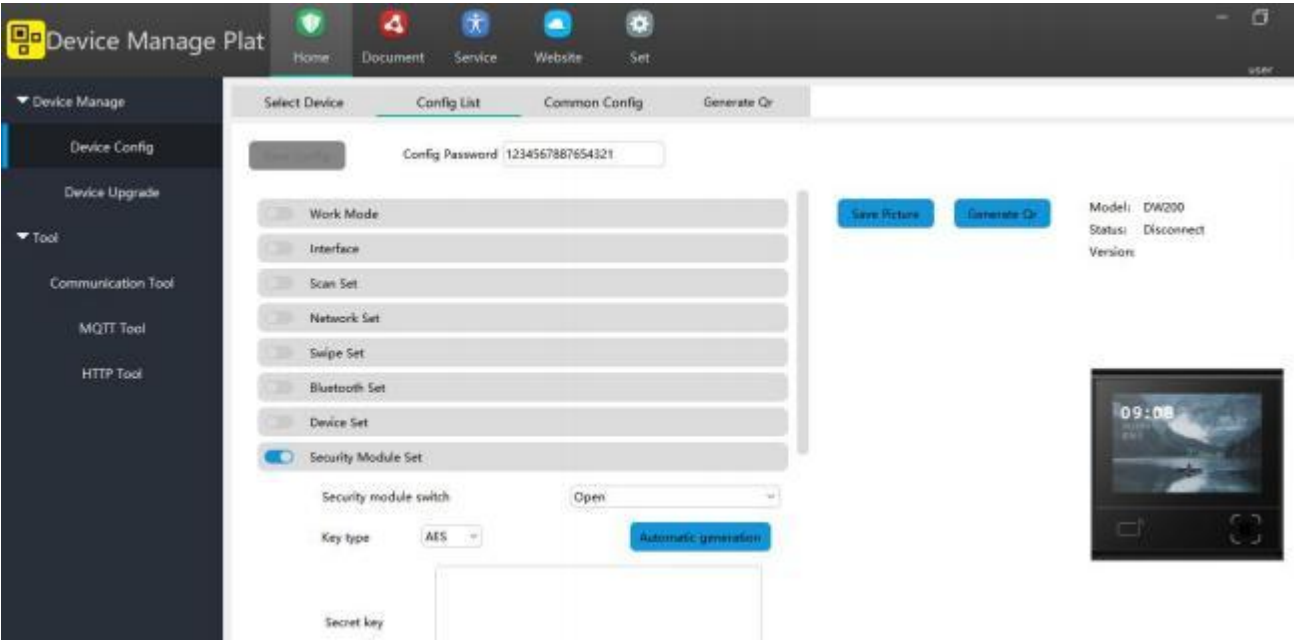
- 1) The security module mode supports network protocols and development protocols with successful behavior returns, namely transparent HTTP protocol, transparent TCP protocol, protocol TCP protocol, and protocol 485 protocol;
- 2) The security module and DW200 device support three encryption methods: AES, SM2, and SM4. Both default encryption methods are AES encryption at the factory, and the default AES key at the factory of the DW200 device is consistent with the default AES key at the factory of the security module; When DW200 is shipped from the factory, the default key for SM2 encryption and SM4 encryption methods is empty and requires key configuration;
- 3) In the safety module mode, the door opening input, relay output, and door magnetic input functions of the DW200 device are invalid.

This section takes the transparent TCP protocol as an example to illustrate. The security module is configured by default at the factory, and the steps are as follows:

Step 1: Connect the DW200 to the security module in accordance with 6.3 in conjunction with the security module

Step 2: Configure the network according to the section 7.4 Transparent Transmission - TCP Protocol.

Step 3: Set the security module in the configuration tool



1 Taking the AES encryption type as an example, the default public key for the security module at the factory is:

5DE3Dd7F5B725C7D27F36019A2DdD94F3866E0D383C93B

D51780E938A2DdDa4

F The IV vector is:

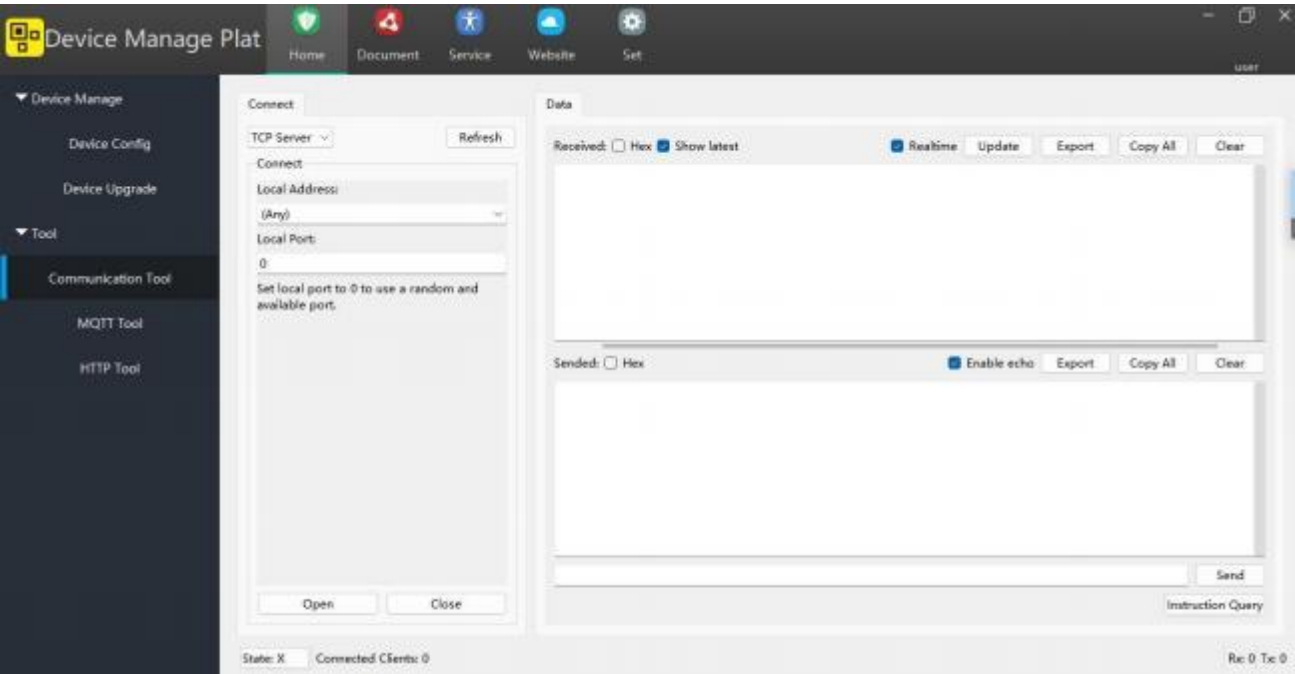
39Fe007B83C92BD527F36019A2DdD94F5DA3Dd7F1780E9 3828E3601A1D8CB9F8

2 The safety module switch to [Open]; The old key is the factory default key, while the new key and vector are automatically generated or manually

filled in.

③ Click to generate a configuration code, scan the configuration code with the device, and the buzzer will sound twice, indicating successful Configuration.

Step 4: Test device



1 As shown in 7.4 Transparent Transmission - TCP Protocol, Step 4, switch to the Debugging

Assistant - Communication Tools page.

② Scan the QR code on the device and the data receiving window will display the QR code data.

3 After the server receives the scanned data, it sends the successful response number [code=0000]. The device will sound a buzzer and broadcast voice according to the set successful behavior, and the security module will activate the relay.

7.9. Bluetooth function

The protocol for Bluetooth function refers to the "Vguang Bluetooth Communication Protocol"

Step 1: Download and install the Android Bluetooth detection tool APP on the official website



Step2: Power on the device, follow 7.3 transparent transmission-TCP to set the device and test computer, scan the code, and the test computer can successfully receive data.

Step 3: Open the app and search for Bluetooth device



1 Click to scan the Bluetooth device list

Step 4: Connect the device Bluetooth



- ① View the SN number in the bottom left corner of the device screen.
- 2 Find the corresponding SN device in the Bluetooth list, click [Detect], and the app will start connecting to the device.
- 3 After successful connection, the gray icon changes to a blue icon.

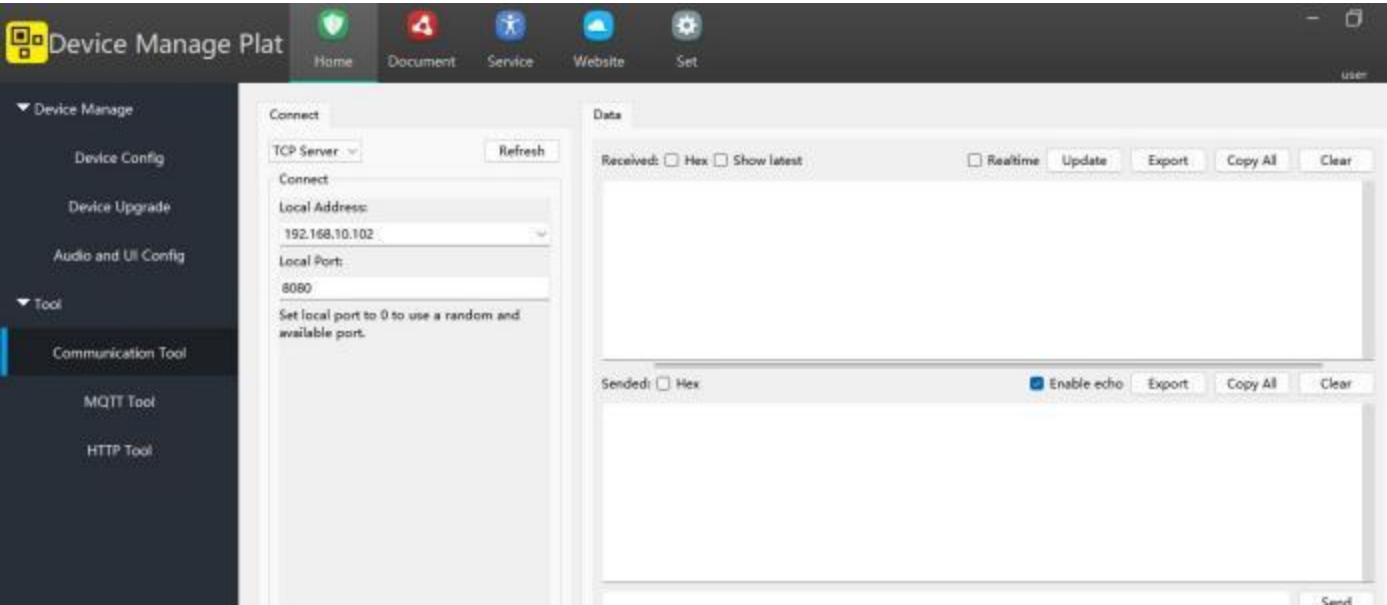
Step 5: Send Data



- ① Click on the red box position for the corresponding device SN number in the APP:  the app will send data "1234567890" to the corresponding device;

- ② When displaying: , indicates that the app has successfully sent data to the device ;

- ③ According to the device's output method



of "Transparent transmission - TCP", the received Bluetooth data

"1234567890" is output through

"Transparent transmission - TCP". The output data can be seen in the receiving tool.

8.Attention

- 1, The device can support 9-15V power supply, with a typical value of 12V. It can be powered from the access control power supply or separately. Excessive voltage may cause device to malfunction or even damage the device.
- 2, Do not disassemble the device without permission, otherwise it may damage the device.
- 3, Devices using WiFi or Ethernet models need to ensure a good network environment, otherwise it may result in inability to connect to the server.
- 4, The installation position of the access control code reader should try to avoid direct sunlight as much as possible. Otherwise, it may affect the scanning effect. The reading panel of the reader should be kept clean and tidy, otherwise it may affect the normal image retrieval of the reader. The metal around the reader may interfere with the NFC magnetic field and affect card swiping.
- 5, The wiring of the access control code reader device should be firm and reliable. Before connecting the wires, ensure insulation to prevent short circuits from burning out the device.
- 6, The output of the access control code reader is a switch signal. In access control scenarios, it can be connected to the original access control system using the normally open or normally closed connection method.

9.Contact info

Company name: Suzhou Koodle Technology Co., Ltd.

Address: 2nd Floor, No.23, Yangshan Industrial Park, No.8, Jinyan Road, Suzhou National Hi-Tech District(SND)

Mail: heqingqing@koodle.cn

Mobile / Wechat: +86 189 1499 5180

Website: www.koodle.cn

Fast recognition