NDI PTZ Camera Controller

User Manual

Catalogue

Attentions

The purpose of this user manual is to ensure that users can use the product correctly and avoid danger and damage in operation. Before using this product, please read this user manual carefully and keep it properly for future reference.

Preface

The camera controller is an essential device in the integrated monitoring system. All- round control of the lens can be achieved through the camera controller, which is simple and convenient. There is also a liquid crystal display screen on the controller, which is used to display the working status and interactive information.

The content described in this manual may be different from the version you are currently using. If you have any questions when using this manual, please contact our technical support for help. The content of this manual will be updated from time to time, and the company reserves the right without prior notice.

Packing List

Items	**Quantity**
PTZ Camera Controller	1
Power Adapter	1
RS45-DIN8 Cable	1
Quality Certificate	1
Warranty Card	1

1. Product Overview

1.1 Brief Introduction

This camera controller has brand new design and adopts metallic panel with frosted film upper shell and CNC oxidation lower shell. With powerful operation, it solves the troubles while operating the camera via web. The adoption of industrial-grade LED module make the display excellent and the character clear. This controller support VISCA, ONVIF, PELCO, and NDI protocols, it fully compatible with VISCA with powerful extension. The web client terminal makes the configuration interface simple and clear.

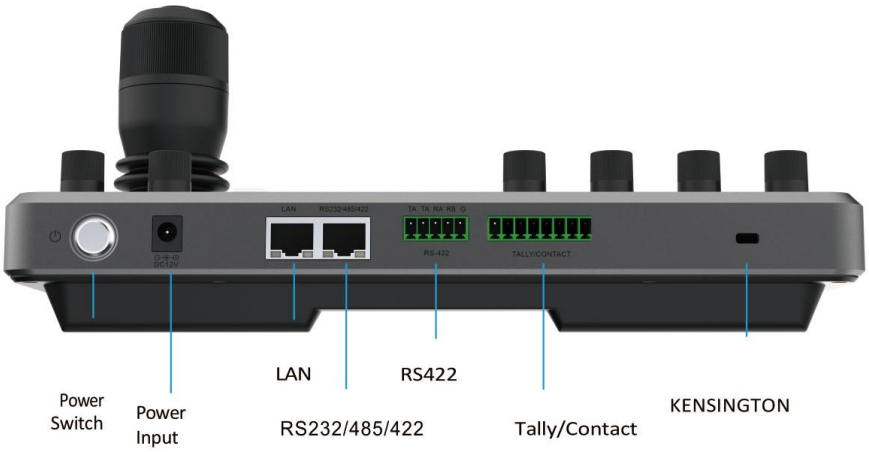
1.2 Product Features

- Support network and stimulation control methods. Dependent IP address available in network mode.
- Support VISCA, ONVIF, PELCO-P, PELCO-D and NDI protocols, and fully compatible with VISCA.
- With central control function, this controller can work on cameras' software.
- Adopting four-dimensional rocker, and the texture is comfortable. Twisting the rocker can directly control the camera in all directions. The lens can be zoomed in and out, and the strength of joystick control can determine the control speed.
- The boat switch is used to adjust the zoom of the conference camera, which is convenient and powerful to operate.IE browser can add configuration of front-end equipment.
- Support IE browser to add configuration front-end device parameters.
- This controller provides four instant access to control cameras and 255 cameras can be quickly switched through a simple tap.
- Supports PoE

2. System Diagram

2.1 Interface Diagram

Supports five control protocols: Network (ONVIF, IPVISCA, NDI), analog (PECLO, VISCA)

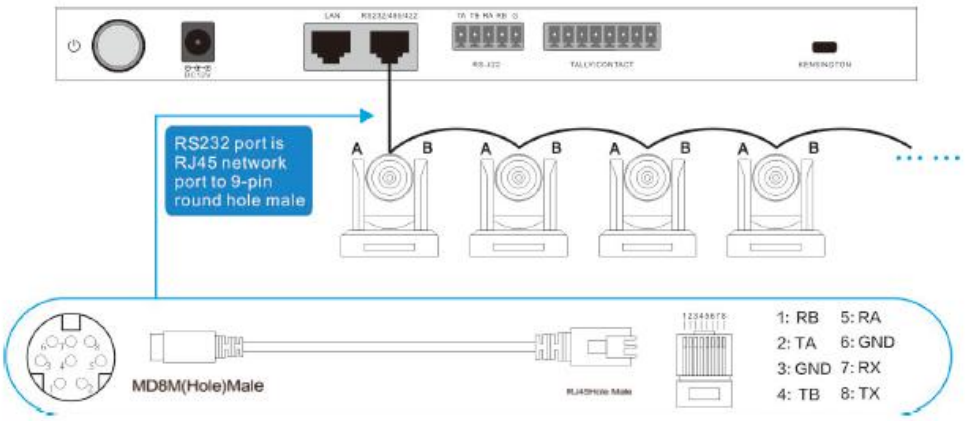


2.2 Network Connection Diagram

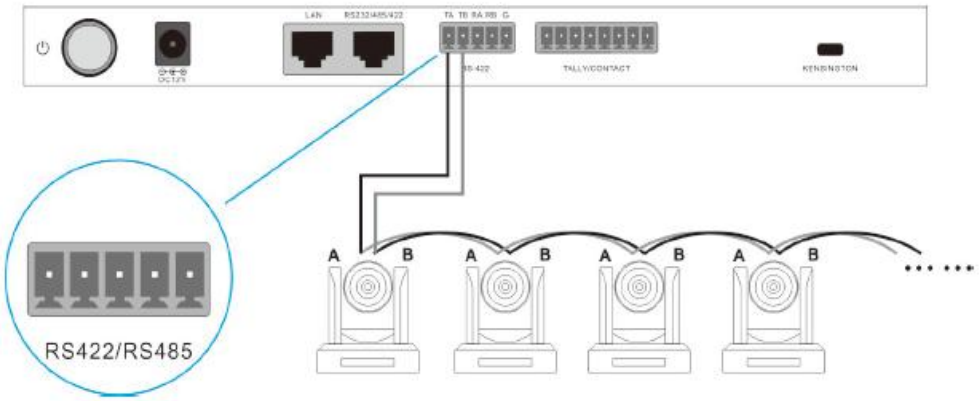
The controller and PTZ camera must be connected to the same LAN, and IP addresses must at the same segment. Otherwise, you need to change the IP address of the controller or camera. The controller defaults to DHCP, which is the dynamic acquisition mode.

2.3 Analog Connection Diagram

(1) Analog Mode RS232



(2) Analog Mode RS485/RS422



The following table lists the corresponding camera wiring.

Controller Terminal Port	Camera 1	Camera2
TA+	TXD IN+	TXD IN+
TB-	TXD IN-	TXD IN-
RA+	RXD IN+	RXD IN+
RB-	RXD IN-	RXD IN-
GND	GND	GND
	TXD OUT+	TXD OUT+
	TXD OUT-	TXD OUT-
	RXD OUT+	RXD OUT+
	RXD OUT-	RXD OUT-

2.4 Technical Specifications

Ethernet	One Ethernet port
Joystick	Four-dimensional (control: up, down, left, right), joystick buttons and zoom function
Display	LCD
Power supply	DC12V1A±10%
Power Consumption	0.6W max
Operating Temperature	0°C ~ 50°C
Storage Temperature	-20°C ~ 70°C
Dimensions(mm)	270mm x 135mm x 110mm

3. Controller Configuration

Knob Area

B: Blue Gain±

R: Red Gain±

FOCUS: Focus±

IRIS/SHUTTER: Iris/Shutter Adjustment±

P/T SPEED: PTZ Speed Adjustment±

ZOOM SPEED: Zoom Speed Adjustment±

Camera Function Area

ONE PUSH WB: One Push WB

WB: Auto/Manual WB

AUTO MANUAL: Auto/Manual Focus

ONE PUSH AF: One Push Auto Focus

EXPOSURE: Auto/Manual Iris, Manual Shutter

MENU: Camera Menu

BOAT SWITCH: Zoom±

BLC: BLC On/Off

Controller Keys Function

SEARCH: Search, automatically search key in LAN

INQURE: Inquiry, view and connect the saved devices

ADD: Add, manually add devices in LAN

LOCK: Lock controllers' keys

SET UP: Set controller

CALL: Recall the presets

PRESET: Set the preset, number keys + PRESET

RESET: Reset the preset, number keys + RESET

ESC: Exit or back, exit the controller system or back to the previous level

Number Keys 0-9: Used for IP and presets

ENTER: Enter, confirm the setting

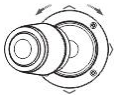
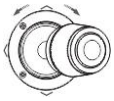
CAM: Switch Channel

Shortcut Function

CAM1-4: Camera switching keys

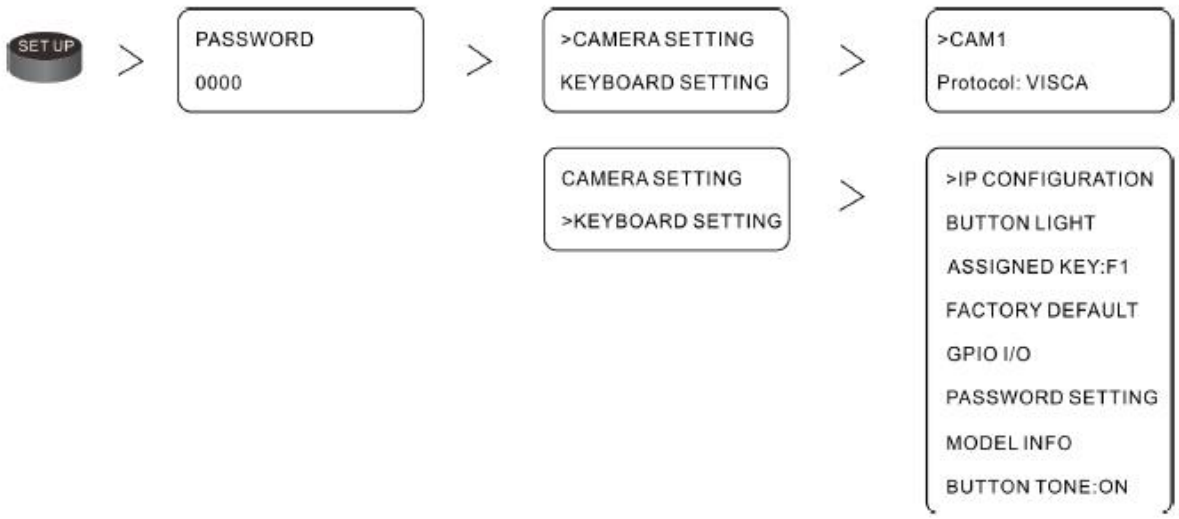
F1-F4: Customizable buttons with adjustable functions such as: HOME position, gimbal reset, power on/off, button mute, image freeze, image flip, and customizable designated keys.

Joy-stick Control

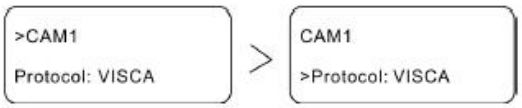
Operation	Control	Operation	Control	Operation	Control	Operation	Control
	Up		Down		Left		Confirm
Operation	Control	Operation	Control	Operation	Control		
	Right		Zoom+		Zoom-		

4. Controller Local Setting

Press “SETUP” button to enter the controller menu, the factory password default is 0000, move the joy-stick up, down, left and right to point to select, then press “Enter” or joy-stick’s top button to confirm the settings. ESC to return to the previous level. The following is the expanded view of the menu.



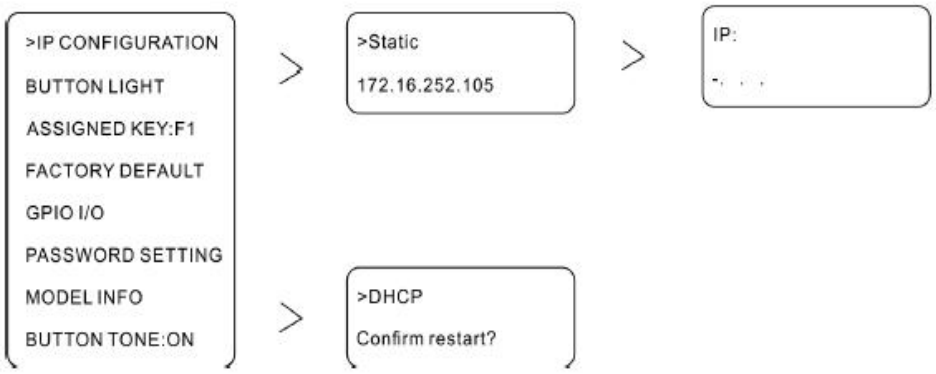
4.1 Camera Setting



CAM: Move the joystick left and right to select the camera, optional 1 ~ 255

Protocol: Optional VISCA, PELCO-P/D, VISCA (UDP / TCP), SONY VISCA, NDI and ONVIF. For details, see **5. Camera Connection**.

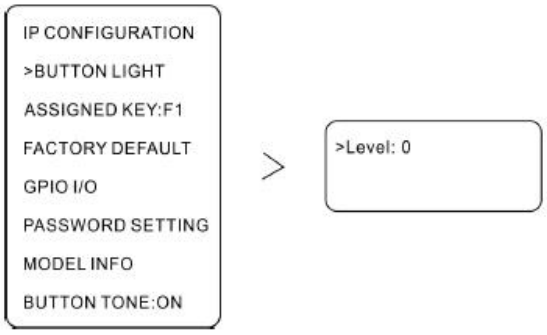
4.2 IP Configuration



Static: Static mode, manually set the IP address, gateway and subnet mask

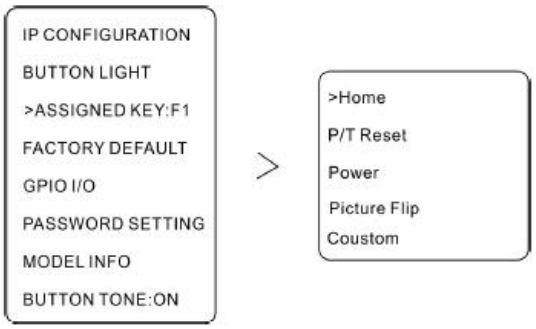
DHCP: Dynamic mode, the factory default mode

4.3 Button Light



There are 3 modes for controller key lighting: Level 0 (no light), Level 1 (normal light), Level 2 (strong light). The default setting is Level 1.

4.4 Assigned Key



F1 ~ F4 are custom buttons. To customize the button, switch the button by shaking the joystick left and right.

Home: Control the camera back to the original position

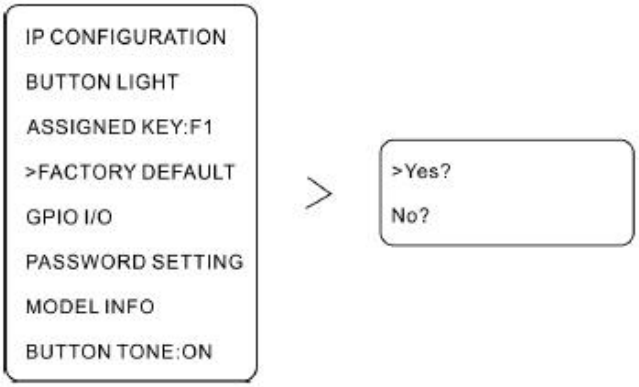
P/T Reset: P/T/Z Reset

Power: Camera power on/off

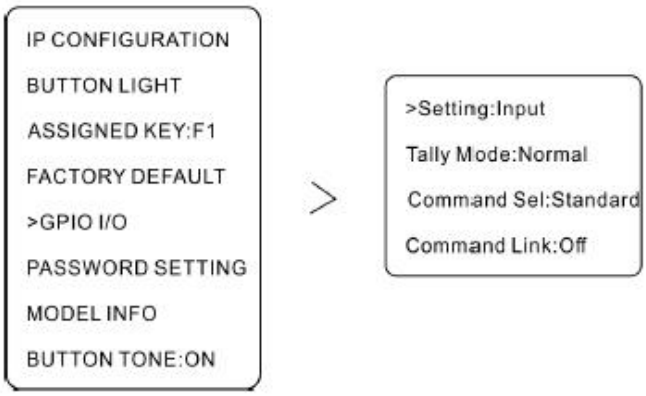
Picture Flip: Camera image flip

Custom: Use number keys to set the F1 ~ F4 to send VISCA commands. For example: you want to set the button to control the camera one push white balance (the corresponding VISCA command is 81 01 04 35 03 FF). You only need to type in 01043503, and ignore the start 81 and the end FF.

4.5 Factory Default

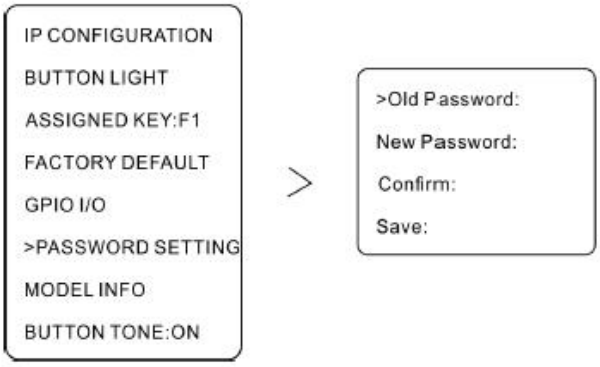


4.6 GPIO I/O



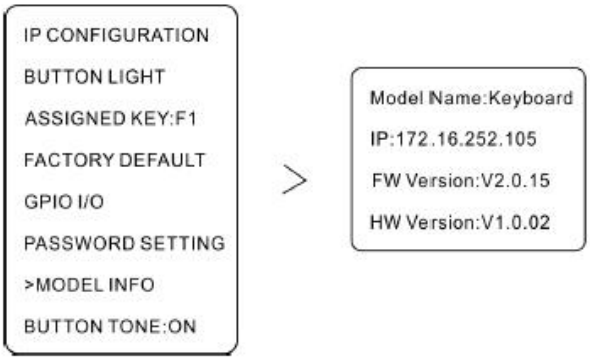
Setting: Set the I/O port type: optional Input or Output
Tally Mode: Set Tally mode, select Normal or On Air
Command Sel: Set the instruction type, optional Standard or Expand
Command Link: Set command connection, optional On or Off

4.7 Password Setting



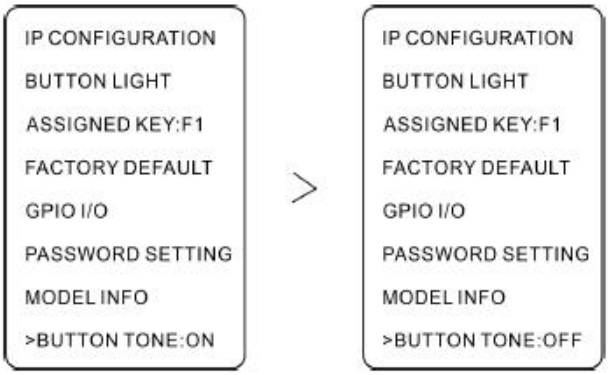
Enter the password setting option, first enter the old password, then enter the new password, and finally confirm the new password, select SAVE, and click "Enter" to save.

4.8 Model Info



The device information item displays: device name, IP address, firmware version number and hardware version number.

4.9 Button Tone



Move the joystick left and right to switch the button sound, the default is off.

5. Camera Connection

5.1 NDI Connection

5.1.1 Search NDI Device Automatically

① Press “Search” to find NDI device
② Select the device to pair with: Move the rotate stick to select the NDI device
③ Type in camera number (1 ~ 255)
④ Press “ESC” to exit
⑤ Connect to NDI device: “CAM” + Number Keys + “Enter”

5.1.2 Add NDI Device Manually

Method A :

① Press “ADD”
② Type in camera number (1 ~ 255)
③ Move the joystick left and right to select control protocol
④ Type in IP address (IP of NDI camera)
⑤ Type in terminal port: 5961
⑥ Press “ESC” to exit
⑦ Connect to NDI device: “CAM” + Number Keys + “Enter”

Method B :

① Click "SETUP", select the menu CAMERA SETTING
② Set the camera number: Move the joystick left and right (1 ~ 255)
③ Move the joystick up and down to enter the Protocol option, then use the joystick left and right to select the protocol as NDI
④ Repeat steps ④ ~ ⑦ of method A

5.2 ONVIF Connection

5.2.1 Search ONVIF Device Automatically

① Press “Search” to find device
② Select the device to pair with: Move the rotate stick to select the device
③ Type in user name: admin
④ Type in password: admin
⑤ Type in camera number (1-255)
⑥ Press “ESC” to exit

⑦ Connect to camera device: “CAM” + Number Keys + “Enter”

5.2.2 Add ONVIF Device Manually

Method A：

① Press “ADD”
② Type in camera number (1-255)
③ Move the joystick left and right to select control protocol
④ Type in camera IP address
⑤ Type in terminal port: 2000
⑥ Type in user name: admin
⑦ Type in password: admin
⑧ Press “ESC” to exit
⑨ Connect to camera device: “CAM” + Number Keys + “Enter”

Method B：

① Click "SETUP", select the menu CAMERA SETTING
② Set the camera number: Move the joystick left and right (range 1 ~ 255)
③ Move the joystick up and down to enter the Protocol option, then use the joystick left and right to select the protocol as ONVIF
④ Repeat steps ④ ~ ⑦ of method A

5.3 IP VISCA Connection

5.3.1 Search IP VISCA Device Automatically

① Click the button "SEARCH" to select VISCA(UDP) to search for camera equipment
② Select the device to pair with: Move the rotate stick to select the device
③ Type in camera number (1-255)
④ Press ESC to exit
⑤ Connect to camera device: CAM + Number Keys (Camera Number) + Enter

5.3.2 Add IP VISCA Device Manually

Method A：

① Press “ADD”
② Type in camera number (1-255)
③ VISCA(UDP / TCP) Move the joystick left and right to select control protocol VISCA(UDP / TCP)
④ Type in camera IP address

⑤ Type in terminal port: 1259
⑥ Press ESC to exit
⑦ Connect to camera device: CAM + Number Keys(Camera Number) + Enter

Method B :

① Click "SETUP", select the menu CAMERA SETTING
② Set the camera number: Move the joystick left and right (range 1 ~ 255)
③ Move the joystick up and down to enter the Protocol option, then use the joystick left and right to select the protocol as VISCA(UDP) or VISCA(TCP)

④ Repeat steps ④ ~ ⑦ of method A

5.4 SONY VISCA Connection

① Press “ADD”
② Type in camera number (1-255)
③ Move the joystick left and right to select control protocol SONY VISCA
④ Type in camera IP address
⑤ Type in terminal port: 52381
⑥ Press “ESC” to exit
⑦ Connect to camera device: CAM + Number Keys(Camera Number) + Enter

5.5 VISCA and PELCO-P/D Connection

Method A :

① Press “ADD”
② Type in camera number (1-255)
③ Move the joystick left and right to select control protocol VISCA, PELCO-P or PELCP-D
④ Input address: any number (range 0 ~ 9)
⑤ Set the baud rate: move the joystick left and right to set, optional 1200, 2400, 4800, 9600, 19200, 38400, 115200
⑥ Press “ESC” to exit
⑦ Connect to camera device: CAM + Number Keys(Camera Number) + Enter

Method B :

① Type menu CAMERA SETTING
② Set the camera number: Move the joystick left and right (range 1 ~ 255)
③ Move the joystick up and down to enter the Protocol option, then use the joystick left and right to select the protocol as VISCA , PELCO-P or PELCP-D
④ Repeat steps ④ ~ ⑦ of method A

6. Web Page Configuration

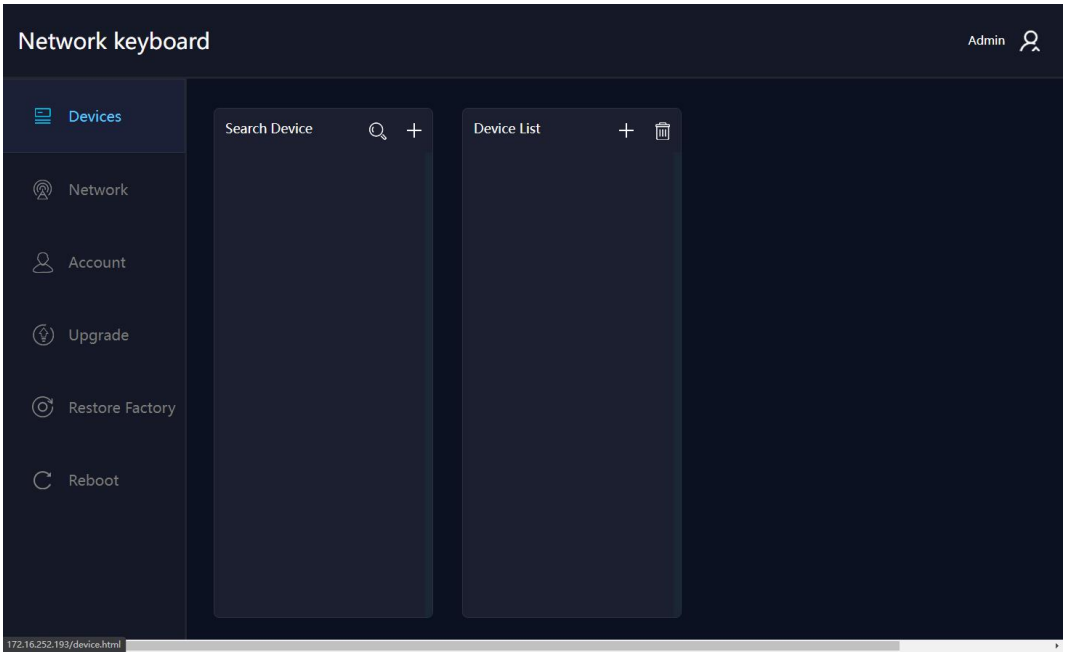
6.1 Connection Mode

Direct connection mode: directly connect the controller to the computer with a network cable, and the user can access the webpage by entering the IP address of the controller in the browser. (Note: In this mode, the controller needs to be set to static IP mode, and the controller and computer need to be in the same network segment)

Network connection mode: the controller and the computer are connected to the local area network through a router or switch, and the user can access the webpage by entering the IP address of the controller in the browser.

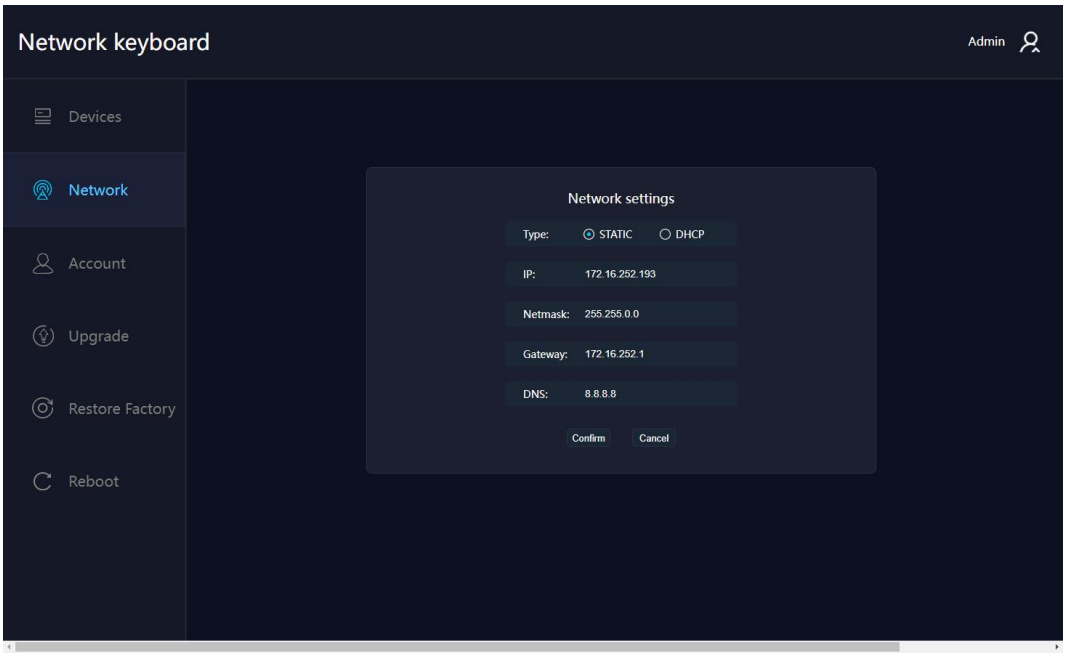
6.2 Device Management

Automatically search and manually add devices (only supports ONVIF protocol adding on the web page currently)



6.3 Network Settings

Set controller IP, [DHCP] automatically obtain IP, [STATIC] manually set IP.



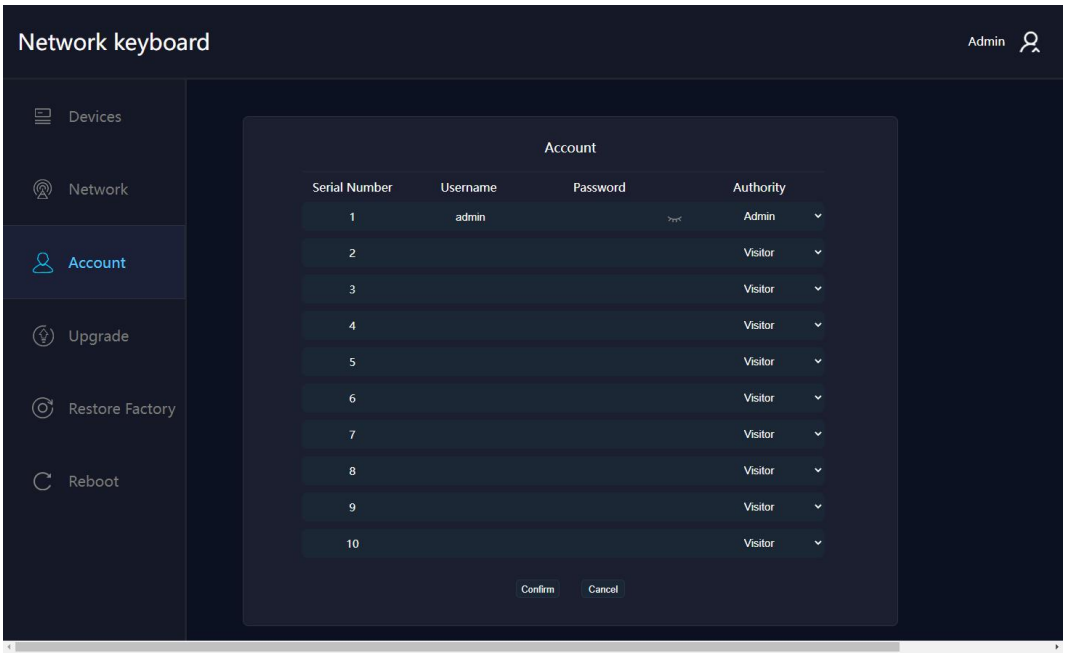
6.4 User Management

Set and change access permission, username and password of the controller web page

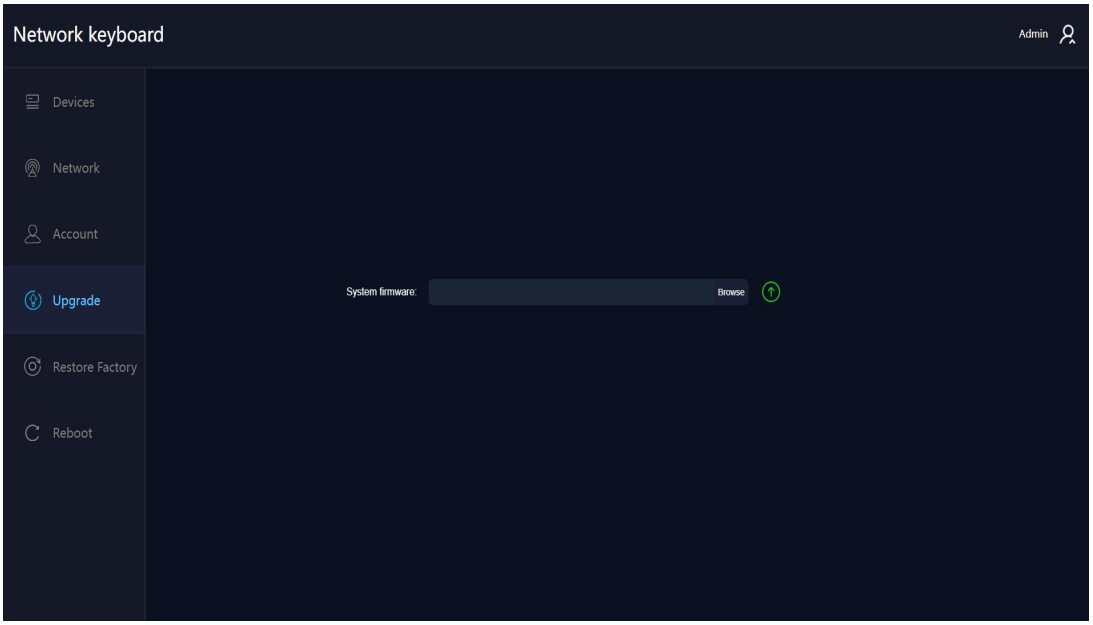
Administrator: Has the access and operation rights of all pages of the webpage

Visitors: Only have the access and operation rights on [Devices]

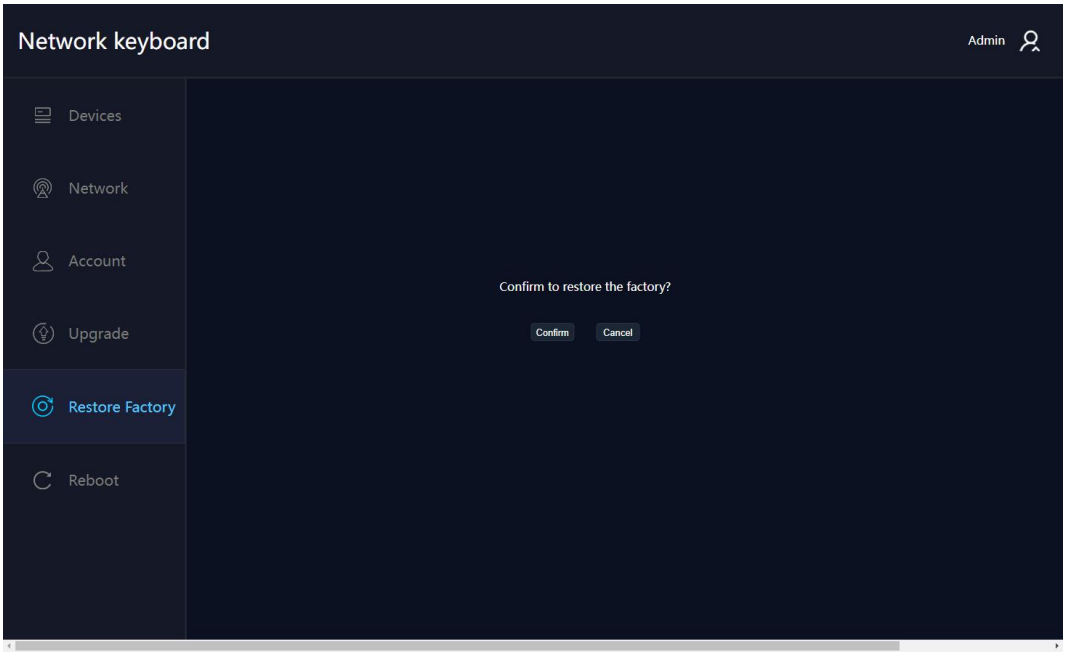
Operators: Have the access and operation rights on [Devices], [Network] and [Reboot] pages



6.5 Firmware Upgrade



6.6 Factory Reset



6.7 Restart Device