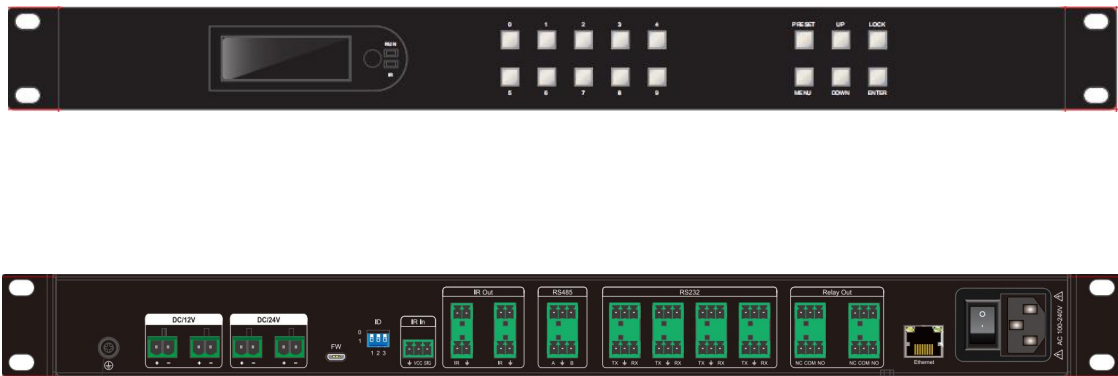


MULTI PORTS CONTROL PROCESSOR

with RS232/RS485/IR/RELAY/POWER/DIP/ETHERNET

OPERATION MANUAL



Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

SURGE PROTECTION DEVICE RECOMMENDED

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

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About the Control Processor: It's capable of controlling and monitoring a projector or other display device, source devices, switchers, and various other items such as lights, projector or screen. It can be used in a distributed control system environment or as a stand-alone controller. It allows legacy products to be linked to and controlled via a network. It also has the ability to power devices that accept 12V DC & 24V DC.

1. Features

- Programmable according to the actual needs of users
- Flexible options for the device control - RS232; RS485; IR; RELAY
- Switched 12V DC/24V DC power output*
- Management ability via Ethernet (TCP/IP/HTTP)
- Support cascade to 8 devices through network cable in LAN
- Support Micro USB port updating firmware
- 1U rack design with mounting ears
- AC 100V~240V, 50HZ/60HZ input

2. Specifications

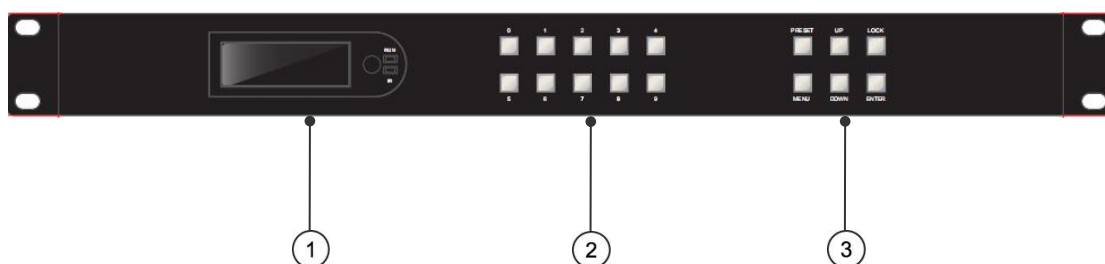
Operating Temperature Range	0 to +40°C (23 to +104 °F)
Storage Temperature Range	-10 to +60°C (-14 to +140 °F)
Operating Humidity Range	5% to 90 % RH (no condensation)
LED Brightness Level	1 to 8
Preset programming scenario	MAX to save 4 presets
Ethernet port	<p>If the green light on, the wire is connected normally; If the green light is off or flashing, it is not connected or is not connected properly.</p> <p>Yellow light always bright: there has been data transmission Yellow light flickering sometimes there is data transmission Yellow light off means temporarily no data transmission</p>
IR	Learning and Pass through
Buttons	Combinable, long press, short press, double - click
Power Consumption	110W max
Dimensions	L438 x W273.7 x H44 mm
Mass (Main Unit)	3.9KG

3. Package Contents

- 1). 1x Main Unit
- 2). 6x Screws, 2x detachable mounting ears
- 3). 1x Power cable
- 4). 1x CD for control software & user manual

4. Panel Descriptions

Front:

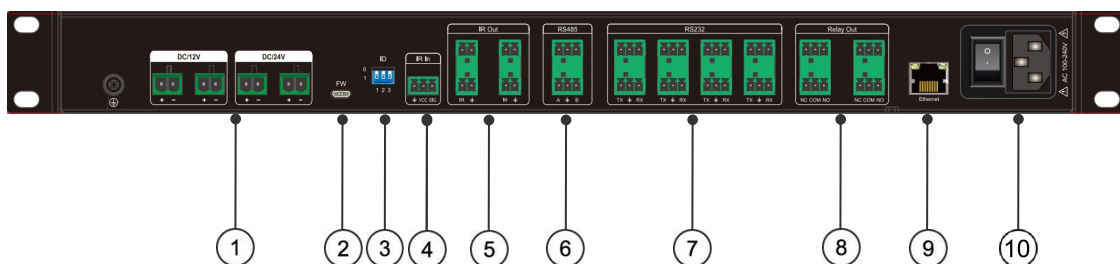


- ① LCD: Showing device information
- ② Number Button: 0~9
- ③ Function button: PRESET; MENU; UP; DOWN; LOCK; ENTER

4.1. Input / output channel key operation

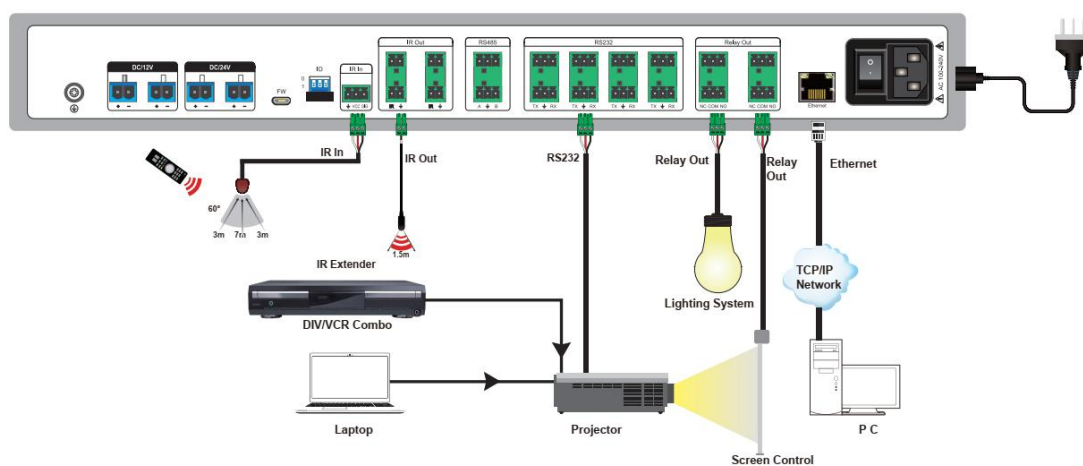
Channel	Button method
Any Key	The first operation of the button can wake up the screen
Number 0-9	Number button, can be used as a trigger source
MENU	Function button, short press to enter the main menu interface or back to the upper menu interface; Can be used as a trigger source
OK	Confirm Button; Can be used as a trigger source
UP	Button for UP option; Can be used as a trigger source
DOWN	Button for NEXT option; Can be used as a trigger source
PRESET	Select the presets button; Can be used as a trigger source
LOCK	Long press lock, Long press again to cancel lock (Showed in LCD); Can be used as a trigger source

REAR:

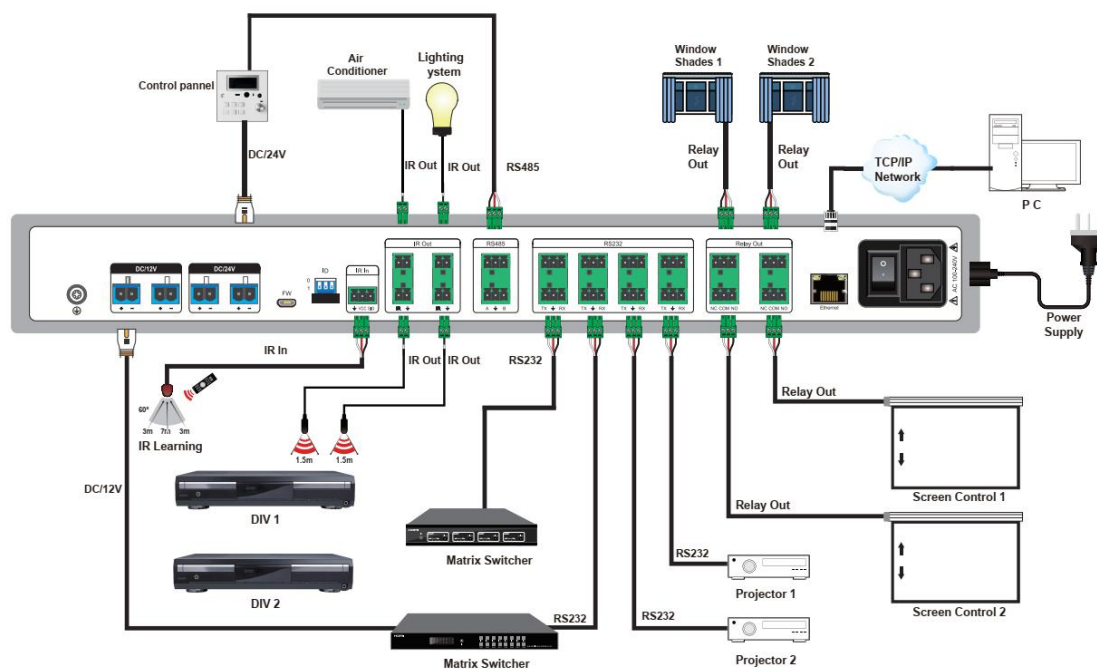


- ① DC12V&DC24V Power output ports
- ② FW: USB Updating port
- ③ Device ID ports
- ④ IR Input ports: Receive supporting remote control signals
- ⑤ IR Output ports: Send a learning remote control signal
- ⑥ RS-485 ports: 2 bidirectional RS-485
- ⑦ RS-232 ports: 2 bidirectional RS-232
- ⑧ Relay Output ports
- ⑨ Ethernet ports
- ⑩ Power Input port with Switch button

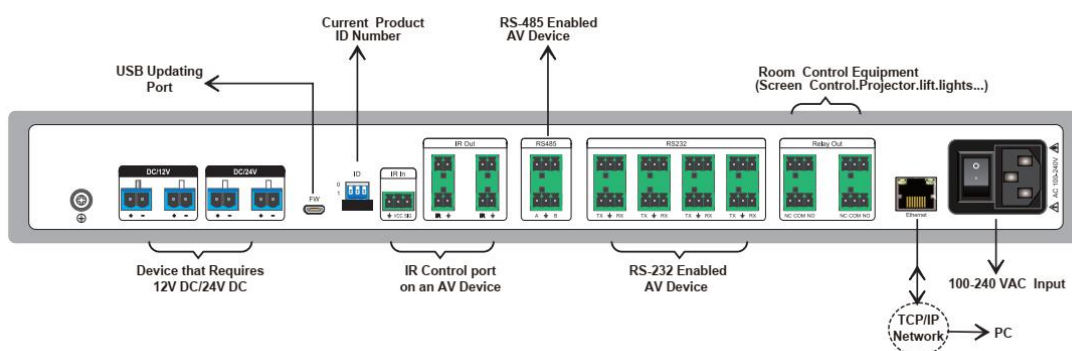
5. Application Diagrams 1:



Application Diagrams 2:



Application Diagrams 3:



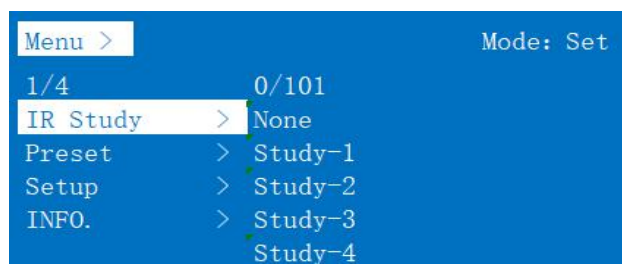
6. Device Control - LCD

6.1. Trigger Mode:



- * Default into Trigger mode when the device is powered. This mode cannot set any parameters.
- * Short press key button "LOCK" to turn off the buzzer if you think it's noise.

6.2. Setting Mode:



- * Click any button to enter the "SET" setting mode
- * Setting mode does not operate for a long time, it will automatically enter Trigger mode

6.2.1. IR Study function:

Total of 100 learning groups, after learning and according to the pre-downloaded events, can carry out a series of actions for infrared emission.

Steps: Jump to the corresponding group "Stud-x" and click it. At this time, click the remote control will automatically learn and store in flash, and then skip to none, means the completion of IR Study.

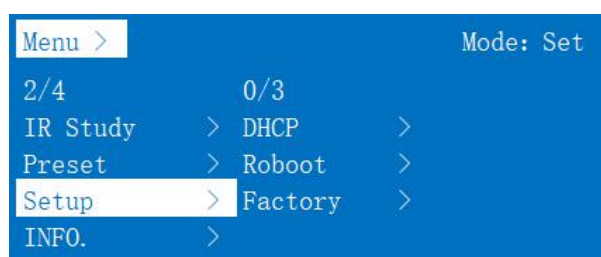
6.2.2. Preset function:

Total of 4 presets scene can be saved. Each of the memory is 1.5MB max. Can be switched by pressing the button.



6.2.3. Set up function:

Setting the DHCP state of the device (default off), reboot the device, restore to the factory setting and other operations



6.2.4. INFO. function:

Query system version. IP address and other information

(default IP address 192.168.1.168, gateway: 192.168.1.1, DHCP: OFF)



6.3. Functions and considerations when setting the mode

Setting Options		Attention
Trigger Source	Timer	Timing time (ms): input timing time (valid when timing range is 0)
	Button	Press/bounce/click/long press/double click
	RS-232/RS485 (RX)	Maximum 32 characters, ASCII (identifiable characters)
	IR Input	Receive supporting remote control signals
	Ethernet	Maximum 32 characters, ASCII (identifiable characters); Port:6008
Action	CALL	Call 0, invalid if the event does not exist;CALL cannot be used with the Timer event; it will enter an infinite loop
	RS-232/RS485 (TX)	identifiable characters
	IR Output	Send a learning remote control signal
	Button LED	Adjust the brightness (The grayscale is adjusted as a whole, and cannot be adjusted separately. The running lamp and the infrared lamp will also be controlled, among which lv8 brightness is the highest)
	Relay	Enable to control on and off
	Buzzer	Enable to control on and off
	Power	When the single-channel power reaches the set value(30W), it will directly disconnect the current output power (deviation $\pm 1W$), and it must be turned on separately. If the total power of any three channels reaches about 90W, the one with the highest power will be disconnected.
	Delay	Action delay: the longer the delay time set, the longer the whole code program is stuck, until the end of the timing, will continue to execute; Device ID: can not be transmitted to other devices, only for the current device operation; When the random delay time is 0, the parameters within the delay time will be executed; otherwise, the random delay will be executed.
	Cycle	Carry out circulation and reverse operation within the action;Mark value must be set first;Set the number from goto to Mark; Device ID: can not be transmitted to other devices, only for the current device operation

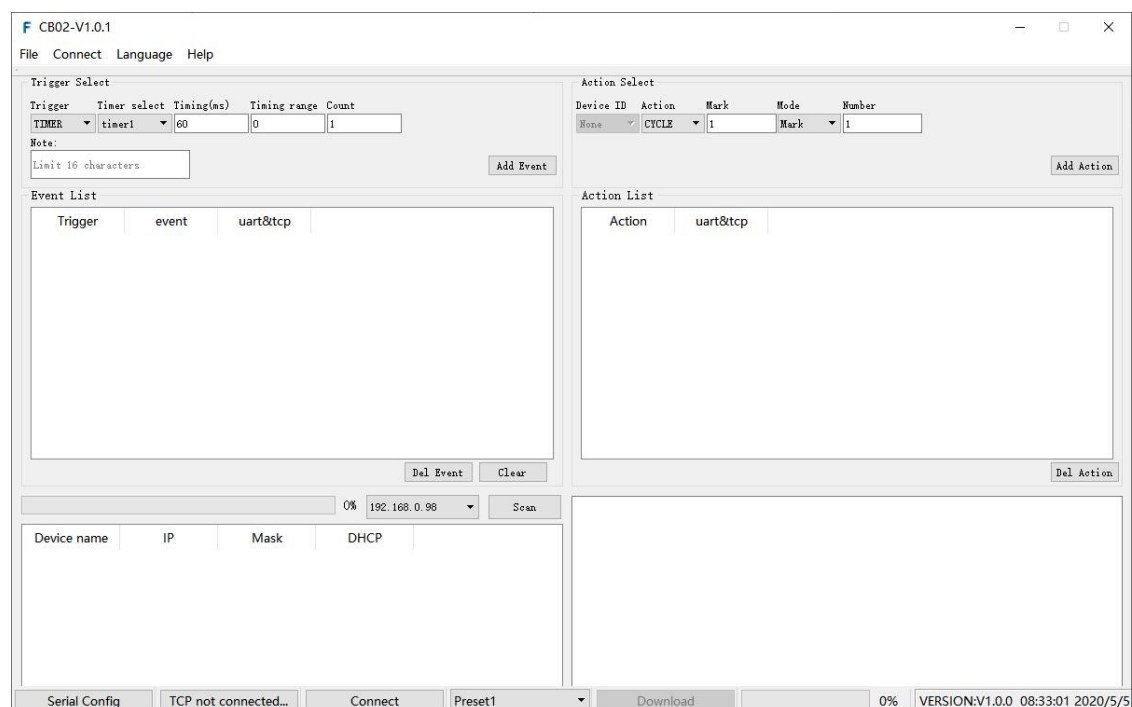
7. Software control and programming

The main interface is divided into nine parts:

mode, trigger type, trigger module, event type, event list, action type, action module, action type, action list.

Each part of the configuration has its own Settings to meet different kinds of requirements.

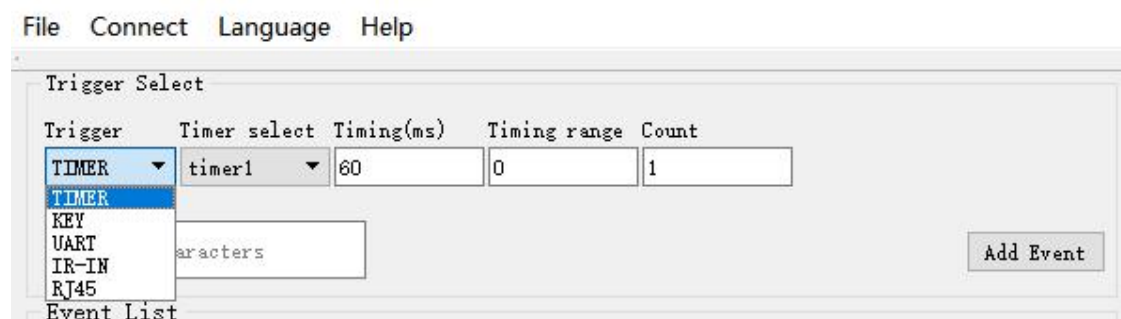
The main interface is as follows:



Menu	File	Open (profile) : you can directly import the written configuration file, suffix.ini
		Save (profile) : saves the current configuration to the location of the software
		Save as (profile) : saves the current configuration to another location
		Close the program: click close the program
	Connect	TCP configuration: you can set DHCP switch, IP information, etc
		Serial port configuration: set the baud rate of serial port, check bit, etc. * can only modify the port of multiple bindings Cannot modify each port individually
		Chinese
	Language	English
		Help
	Help	View the current version information

7.1. Trigger source selection

The mode box can be divided into five trigger sources: TIMER, KEY, UART, IR-IN, RJ45



TIMER: Auto trigger event, automatically trigger when powered;

KEY: KEY button triggers events, which need to select the specific KEY and KEY type to trigger;

UART: Serial port trigger event, which can only be triggered by sending set characters;

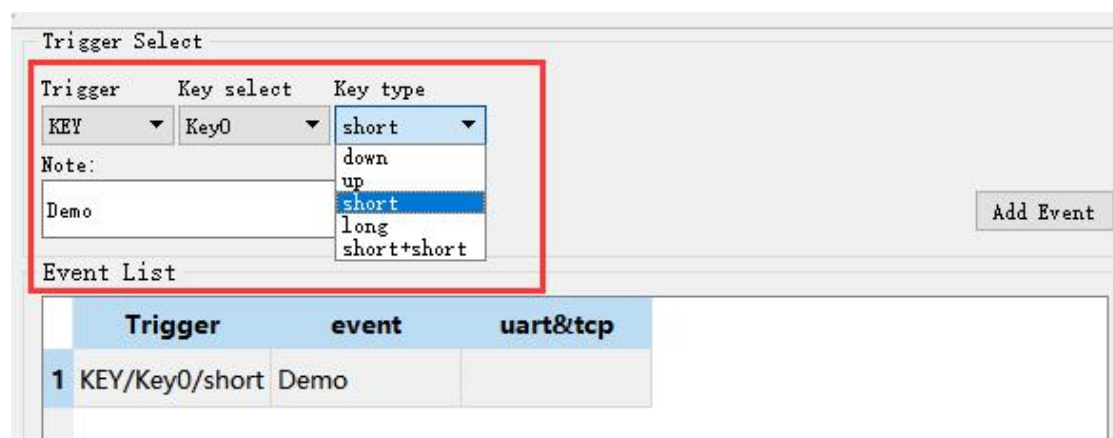
IR-IN: IR trigger event, must use the matching infrared remote control to trigger;

RJ45: Ethernet trigger event, triggered by 6008 port number to send set characters

7.2. Trigger source selection/trigger type

Trigger type - type data - event remarks (can be added or not added, the content is 16 identifiable characters), click "add event", add all the Settings of the trigger source to the following event list box.

Operating as follows:



Eg1. Trigger Source: KEY button

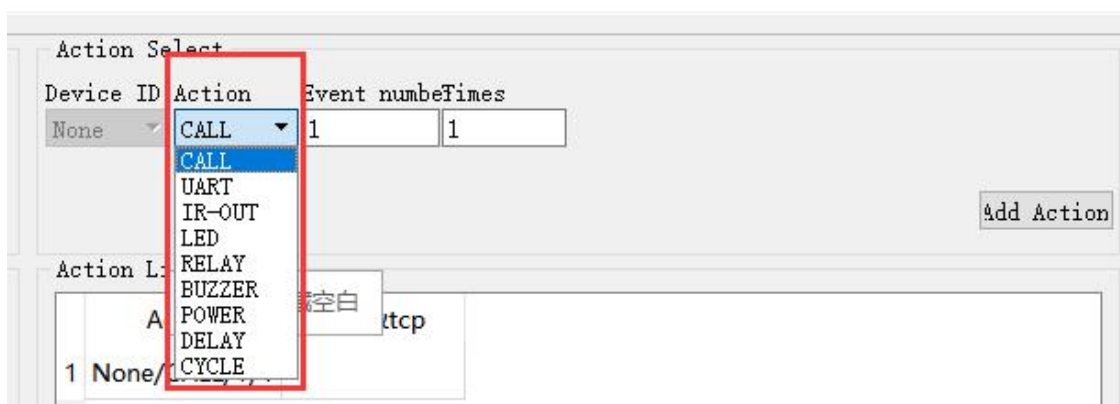
Key button select: 0

Key button type: Short press

(Key button type includes press down, press up, short press, long press and short+short(double))

Eg2. When the trigger source is RJ45 or UART, it should be added according to the format. The date column can fill in up to 32 recognizable characters

7.3. Action selection



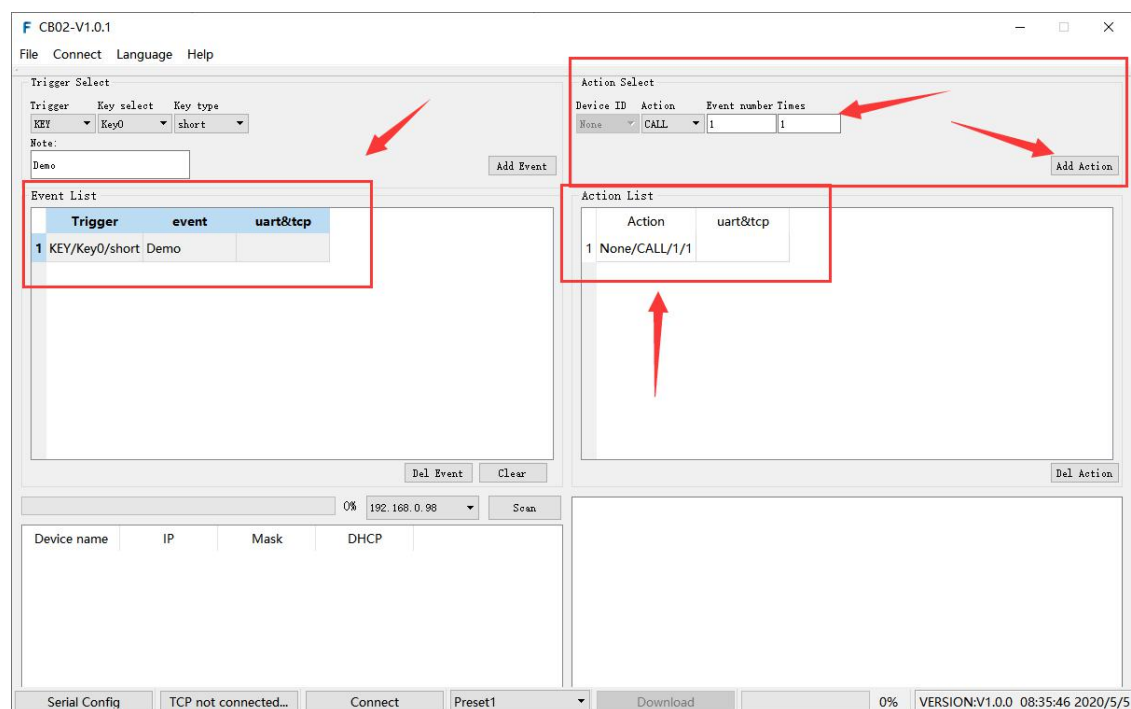
Action selection box:

Device ID → Action type → different types of buttons or operations.

There are ten action types, which are arranged in descending order:

CALL → UART → IR-OUT → LED → RELAY → POWER → DELAY → CYCLE → RJ45

CALL: Events in the list of events called, and the number of times called, need to fill in the event number corresponding to the event on the left side



UART: 8 RS232 and 2 RS485

Corresponding to the wiring terminals on the product (the order of the terminals is LEFT from top to bottom, from left to right).

It should be noted that only the corresponding sending string (identifiable character) or baud rate, data bit, stop bit and check bit can be filled in the additional information box of the action.

Action Select

Device ID	Action	Port select	Baud rate	Data bit	Stop bit	Parity bit	Data type
CB02-1	UART	RS232-1	115200	8	1	No pari	ASCII

data

Action List

Action	uart&tcp
1 CB02-1/UART/RS232-1/115200/8/1/No parity/ASCII	Demo

IR-OUT: NEC and STUDY protocols can be selected, and action can be send from four infrared ports

Action Select

Device ID	Action	Port select	Protocol	CODE	MASK	Wave (KHZ)
CB02-1	IR-OUT	IR-OUT1	NEC	0	0	38

Action List

Action	uart&tcp
1 CB02-1/IR-OUT/IR-OUT1/NEC/0/0/38	

RELAY: Relay1-4 corresponds to 1-4 relays on the device (from top to bottom, from left to right), which can be selected to turn on or off, and can control the devices with different ID searched in the LAN.

Action Select

Device ID	Action	Port select	Operation
CB02-1	RELAY	Relay1	OFF

Action List

DELAY: Only Numbers can be written in the action additional information box, default unit is “ms”, you can choose “s, min, h”, such as write 3000ms, representing 3s delay. You can also set a random event, and a random time means that a certain execution Delay appears randomly within the set time range.

Action Select

Device ID	Action	Units	Time	Random
None	DELAY	ms	60	0

Buzzer: Turn On/Off

Action Select			
Device ID	Action	Port select	Operation
CB02-1	BUZZER	Buzzer1	OFF
			OFF
			ON

LED: You can control the backlight to turn on or off and adjust the brightness. There are 8 levels of brightness, among which LV8 is the brightest and LV1 is the darkest. The brightness adjustment can only be done together.

Action Select			
Device ID	Action	Port select	Black light
CB02-1	LED	All_Led	Lv1
			Lv1
			Lv2
			Lv3
			Lv4
			Lv5
			Lv6
			Lv7
			Lv8

Action List	
Action	uart&tcp

CYCLE: Loop the current action list option

Action Select				
Device ID	Action	Mark	Mode	Number
None	CYCLE	1	Mark	1
			Mark	
			Goto	

The specific setting actions are as follows:

1. Mark can be set in advance. The number of jumps can be selected. Select 1 to indicate loop 1 time
This Mark is the starting point of the loop, so you need to put it in the right place before the actions you want to loop;
2. Sets the current action you want to loop
3. Set Goto, end the loop and jump to Mark

8. Testing

8.1. KEY Button and LED Testing

Connect to the computer through the network port in advance, enter the computer network property, modify the computer network

**IP to 192.168.1.x;
255.255.255.0**

the IP address cannot conflict with the device.

1.The PC TOOL is used to select the “**Trigger**” type as KEY, the trigger “**KEY select**” as key0 (the KEY can be arbitrarily selected), and the “**KEY type**” as short. Click “**Add Event**” after setting

Note: remark information can be added in the event additional remark box, which is easy to remember and distinguish. Up to 16 identifiable characters can be input.

2.After adding the event to the “**Event List**”, click “**Action Select**”

3.Action type: LED; Action module: led1-6; action type: ON

4.After the completion of adding, it will appear in the list of actions, and the corresponding order of adding before and after editing; Here the action is 0, 1, 2 LED on;And the brightness of all button lights turned on is LV1

Note: the led-all option can only adjust the brightness of ALL the key lights, the running lights and infrared lights will also be adjusted, LV8 brightness is the highest.

5.Step to 1Scan; 2Search; 3Connect; and 4Downlaod the Even.

Note:

*1. If the scan fails, it is recommended to close the firewall or add the Processor to the firewall pass list.

*2. After downloading, the connection will be closed automatically. The progress bar can check the status of download completion.

8.2. RS232 Testing

8.2.1. Single Unit testing:

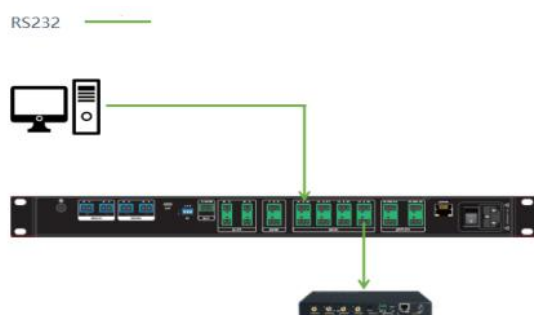
The specific operation steps as follows:

Trigger source: UART→ RS232-1 port, other data default → fill in any trigger condition character → add event

* 2: after setting, click download to configure to the product.

Action selection: select native device ID→ action type: UART→ RS232-8 port, other data default → fill in any sent character → add event.

Connect to download, and then you can open the serial port tool in the computer to connect to the serial port to send instructions to the device to trigger the even

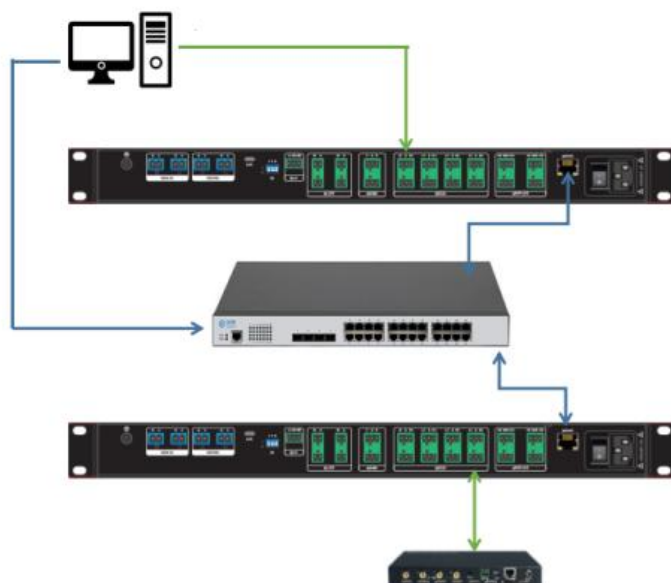


8.2.2. Cascade Testing:

The trigger source: Device ID1 set to the RS232-1 port (dial switch: 000), and relevant instructions are written and added to the event.

Action selection device ID2 (dial switch: 100)'s RS232-8 to send commands

You can choose to control the relevant products with RS232 received, you can use your company's products with RS232 port and with command control products for testing.



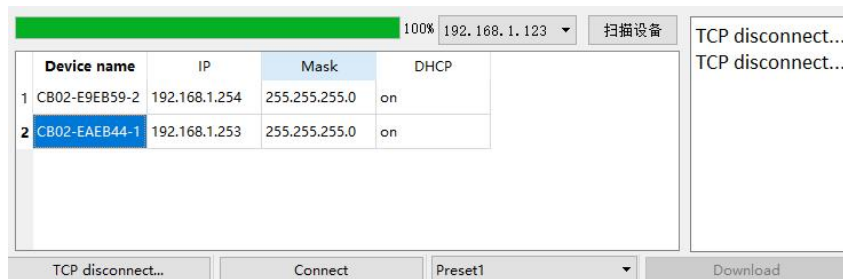
The specific operation steps are as follows.

Trigger source: UART→ RS232-1 port, other data default → fill in any trigger condition character → add event

* 2: after setting, click download to configure to the product.

Action selection: action type: UART→ device ID: 01 → r=RS232-8 port, other data default → fill in any send character → add event.

Click the scan device, then connected to the LAN devices will be searched out. And the device name suffix searched after the device dial switch will distinguish the ID. Because the device ID1 is triggered to control the device ID2, so, when downloading, we need to click the connection to Download the selected device ID1, the selected column will turn blue, and then click Connect→ Download

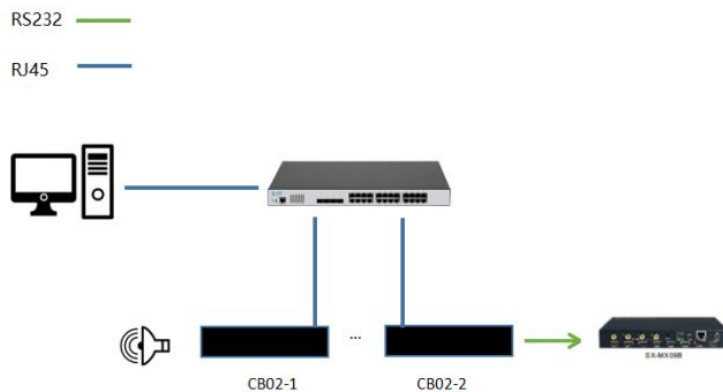
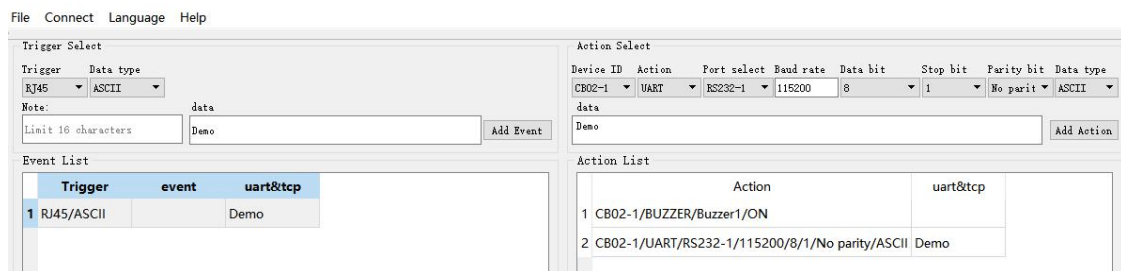


8.3. RJ45 Testing

The trigger source is RJ45, add the data data, and write to the event list.

Action selection control Processor-1 buzzer on,

Control processor-2, action select RS232 port to control the product with command control, by opening the support of TCP/UDP protocol software, choose port 6008 for testing.



8.4. RELAY Testing

Sets any trigger source and action selection. Verify that the relay is ON or OFF with the relevant instruction.

(the maximum support of 1-4 relay is not more than AC 125V input, rated current 1A, power 125W)

(the maximum support of 1-4 relay is not more than DC 24V input, rated current 1A, power 24W)

Noun explanation:

- * 1: COM, Common, refers to the Common end, can contact the NC end or the NO end.
 - * 2: NC, normal off, normally OFF contact, conduction when relay coil is not energized
 - * 3: NO, normal on, normally ON contact, the relay coil is disconnected when not energized.
1. NO power -NC/COM disconnect NO/COM disconnect
 2. Power -NC/COM connection NO/COM disconnect

8.5. Device ID Testing

Device ID	CODE		
1	0	0	0
2	1	0	0
3	0	1	0
4	1	1	0
5	0	0	1
6	1	0	1
7	0	1	1
8	1	1	1

8.6. RS485 Testing

The screenshot displays the RS485 Testing software interface. It is divided into four main sections:

- Trigger Select:** Contains dropdown menus for 'Trigger' (set to KEY), 'Key select' (set to Key3), and 'Key type' (set to short). Below these is a 'Note:' field with the text 'Demo' and an 'Add Event' button.
- Action Select:** Contains dropdown menus for 'Device ID' (set to CB02-1), 'Action' (set to UART), 'Port select' (set to RS485-1), 'Baud rate' (set to 115200), 'Data bit' (set to 8), 'Stop bit' (set to 1), 'Parity bit' (set to No parity), and 'Data type' (set to ASCII). Below these is a 'data' input field and an 'Add Action' button.
- Event List:** A table showing the configured event.

	Trigger	event	uart&tcp
1	KEY/Key3/short	Demo	
- Action List:** A table showing the configured action.

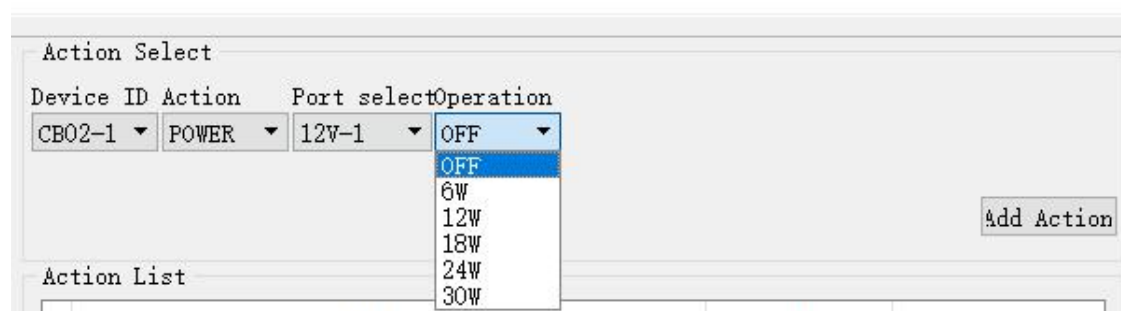
	Action	uart&tcp
1	CB02-1/UART/RS485-1/115200/8/1/No parity/ASCII	date

Note: During the test, there should be no garbled codes in the data sent and received, and the data sent and received should be consistent. Different baud rates should be switched for the test. Notice if the written date can be triggered correctly

8.7. Power On/Off Testing

The maximum support for 2-way output of 4 ports of the power supply is not more than 24V/30W independent dc voltage; In software, the output power of each port is set in advance, which can be selected as 6W, 12W, 18W, 24W and 30W respectively. Each port can be set independently. When the single channel power reaches the set value (with an error of $\pm 1W$), the current output power will be directly disconnected, and it must be turn on separately.

If the total power of any three channels reaches about 90W, the one with the highest power will be disconnected.

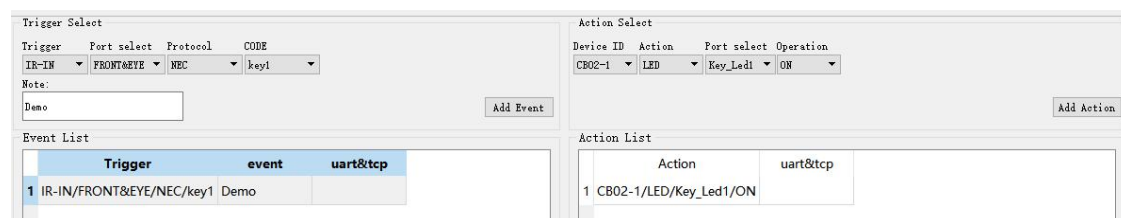


8.8. IR Testing

8.8.1. IR IN Testing (Distance 7M)

Format: trigger source IR-IN → key Code

Action type LED → Port Select LED 0-9 → Operation type (turn on LED light)



8.8.2. IR STUDY Testing

1. Press the key button to enter the main menu and select "IR Study", and select an IR-Study x group (x = 1-100).

2. After clicking the selection group, the remote control to be learned corresponds to the CB02 IR-IN port.

Press the button of the remote control in turn, and CB02 will automatically recognize the infrared waveform and the storage unit (learning success will automatically jump back to None).

3. Infrared learning finished.

4. According to the preset trigger source, send the IR waveform after learning through the irout port.

* 1: in the infrared learning process, the infrared reception distance of CB02 should not exceed

20cm to avoid interference with waveform recording;

- * 2: the unknown waveform generated in the infrared record can be overwritten again by clicking on the keyboard;
- * 3: learning infrared and programming can be freely deployed;
- * 4: when the remote control button is a multiplexing key, the infrared learning can only learn and record the waveform once at a time, so a key with multiple waveform key values needs to learn and record respectively

8.9. ETHERNET Cascade Testing

One to one single control:

The steps are as follows:

1. Connect the processor directly via network wire in advance
2. Using PC TOOL for scanning in the computer.
3. Download the trigger source and action

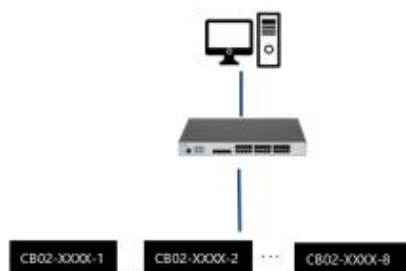
One to many single control:

Setting steps can refer to the one-to-one single control,

The format of one-to-many control is as follows:

1. Turn On DHCP. When using one-to-many, the DHCP device can be turned On.
2. Turn Off DHCP, turn off DHCP using one-to-many operation requires IP modification for each device separately, which can be changed on the web page or on the PC TOOL.

After the above parameters are set, one-to-many control can be realized (up to 8 sets are supported according to the device ID).



Computer Processor	5M	80M	100M
5M	✓	✓	✓
80M	✓	✓	✓
100M	✓	✓	✓

Note: the inner line length of the table is the extension distance of the switch

9. WEB GUI Introduction

Factory Default IP Information

IP address :	192.168.1.168
Mask :	255.255.255.0
Gate way :	192.168.1.1
DHCP	Off

The processor is connected to the control device (such as PC) through the TCP/IP port, which can be controlled by the PC TOOL, or by the GUI man-machine interactive interface

Control mode is divided into two: can be connected with a single non - network computer, single control; Can also be connected to the LAN, to achieve multi - machine control at the same time

Note: web controls recommend using Google, fire-fox, IE8 or more browsers, using other browsers may not be compatible

Note:

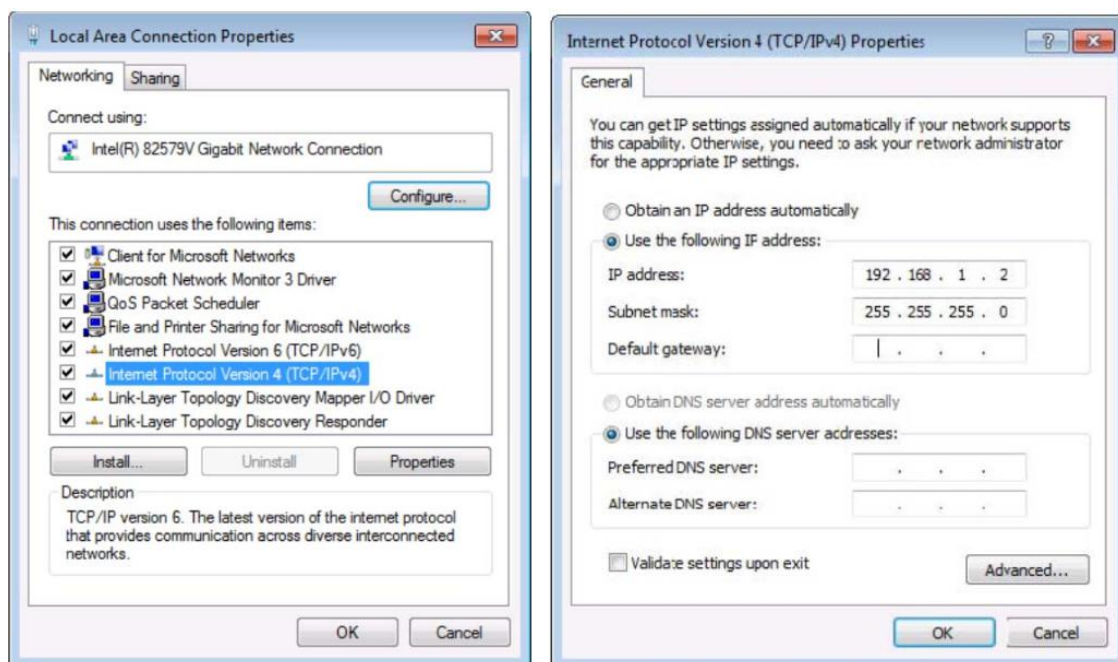
The web set a cookie, when the password and account correct, if the browser is not closed, refresh the page again, will automatically login.

Offline single control:

When the host is connected to a single off-network computer through TCP/IP port, the host is consistent with the control computer network segment. Direct connection for control; If the network segment is inconsistent, it needs to change the control computer network segment and the host network segment, but can not set the same IP address, IP address conflict will not be able to access the web terminal.

Multiple simultaneous control of LAN:

Connect to LAN to realize multi-user remote control of devices (such as mobile phones and other PC) in the Ethernet environment. Ensure that the IP network segment of the host is consistent with the IP in the connected LAN.



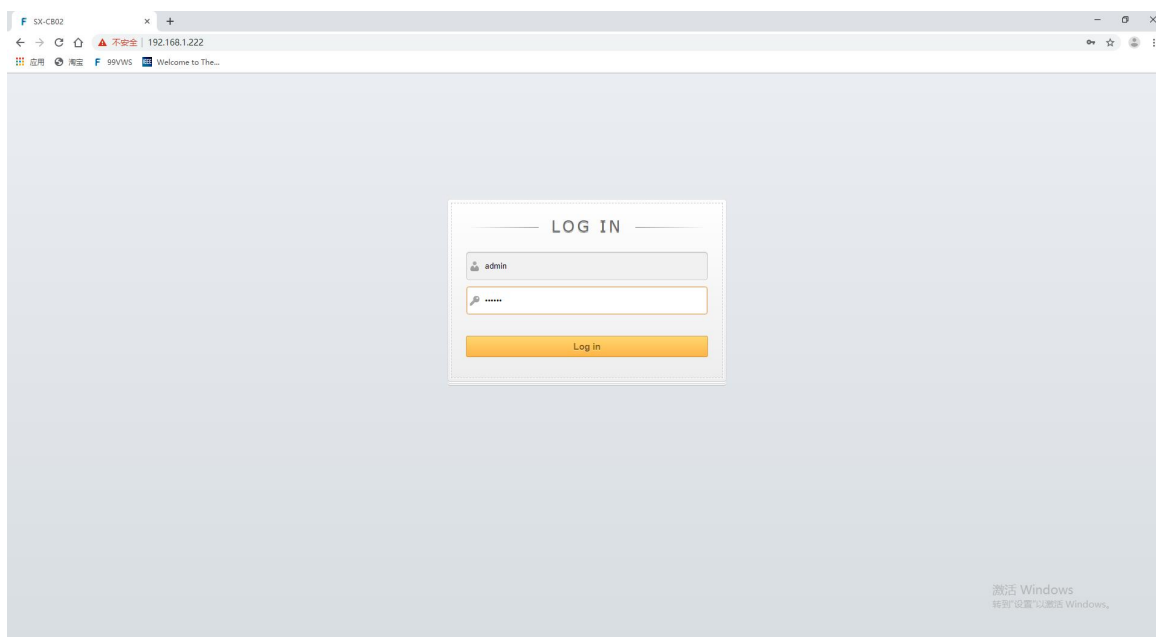
9.1. LOGIN

After setting, ENTER the browser, ENTER the default IP address, ENTER the LOGIN interface at the webpage end, ENTER the

Account number: admin

password: 123456

Click LOGIN or press ENTER to LOGIN, as shown in the figure



9.2. Status interface description

status	configuration	system	network
System Description			
Model:	CB02		
Part Number:	0.0.0.0		
Firm ware:	V0.0.0		
Ip Settings			
DHCP:	off		
IP Address:	192.168.1.168		
Gateway IP Address:	0.0.0.0		
Subnet Mask:	255.255.255.0		
MAC Address:	46-58-4E-XX-XX-XX		
Serial Port Settings			
Port :	RS232-1/RS232-2 RS485-1/RS485-2	Port :	RS232-3 RS232-4
Baud Rate:	115200	Baud Rate:	115200
Data Bits:	8	Data Bits:	8
Parity:	No	Parity:	No
Stop Bits:	1	Stop Bits:	1
Port :	RS232-5 RS232-6	Port :	RS232-7 RS232-8
Baud Rate:	115200	Baud Rate:	115200
Data Bits:	8	Data Bits:	8
Parity:	No	Parity:	No
Stop Bits:	1	Stop Bits:	1
Relay Port Settings			
Port	Status		
1	off		
2	off		
3	off		
4	off		

9.3. Configuration interface:

1. Click the configuration button, can enter the Serial Port Setting (Serial Port Settings interface), Setting 8* RS232, 4* RS485 Ports, click the small circle under each Port, The inside of the circle will turn black when selected

The parameters include: baud rate, data bits, parity check code, stop bits, etc.

Click the Submit button after the completion of modifying success;

2. Click the configuration button to enter Relay Port Setting.

4 ports can be set, click the small circle under each port ON/OFF,

The inside of the circle will turn black when selected, and the modification will be completed by clicking the blue Submit button.

Relay Port Settings

Port	On	Off
1	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>

Submit

12VDC Switching

Port	Power	Max Power
1	<input type="radio"/> off	<input type="radio"/> 6 watts <input type="radio"/> 12 watts <input type="radio"/> 18 watts <input type="radio"/> 24 watts <input checked="" type="radio"/> 30 watts
2	<input type="radio"/> off	<input type="radio"/> 6 watts <input type="radio"/> 12 watts <input type="radio"/> 18 watts <input type="radio"/> 24 watts <input checked="" type="radio"/> 30 watts

Submit

24VDC Switching

Port	Power	Max Power
1	<input type="radio"/> off	<input type="radio"/> 6 watts <input type="radio"/> 12 watts <input type="radio"/> 18 watts <input type="radio"/> 24 watts <input checked="" type="radio"/> 30 watts
2	<input type="radio"/> off	<input type="radio"/> 6 watts <input type="radio"/> 12 watts <input type="radio"/> 18 watts <input type="radio"/> 24 watts <input checked="" type="radio"/> 30 watts

Submit

9.4. System Interface:

status
configuration
system
network

System Setting:

Reboot

Factory

Change Password:

User Name : admin

New Password :

Confirm the Password :

-----Version-----

MCU:V0.0.0
HTML:V0.0.0

Apply

1. User name means to change the login user name
2. New password means entering a new password for the login interface
3. Confirm the password means to enter the new password again, and click apply to complete the change
4. Change the account and password. Only support 6-15 digits, alphanumeric and underline.(you can only change the account name and password of the current login account, the next login will take effect).
5. Click reboot to restart the device;
6. Click Factory to restore the Factory setting function of operation data, and save the scene function;
7. After clicking, there will be a prompt to confirm the button. After clicking the pop-up box to confirm the button, the web page will be refreshed.

There are 6 groups of account passwords used to change login, and only the current login account password can be changed

The default user and password are:

admin	123456
admin1	123456
admin2	123456
admin3	123456
admin4	123456
admin5	123456

9.5. Network Interface:

The screenshot shows a web-based configuration interface for a network device. At the top, there are four tabs: 'status', 'configuration', 'system', and 'network'. The 'network' tab is currently selected. Below the tabs, the following configuration options are visible:

- Mac Address :** 46:58:4E:EA:EA:51 (displayed in a read-only field)
- IP Address :** 192.168.1.222 (editable text field)
- Net Mask Address :** 255.255.255.0 (editable text field)
- Gate Way Address :** 192.168.1.1 (editable text field)
- DHCP :** Off (toggle switch)

At the bottom center of the configuration area, there is a blue button labeled 'Apply'.

1. MAC address can only be displayed and cannot be modified.
2. Static IP: when static IP is used at that time, IP and other addresses can be modified, and it will

take effect after application, and there will be an eight-second countdown

3. Then automatically re-enter the web interface.

4. Dynamic IP: use the button to switch to the state of DHCP ON to use the dynamic IP, IP and other addresses, the dialog box becomes gray, can not be modified, can show the current IP address information.

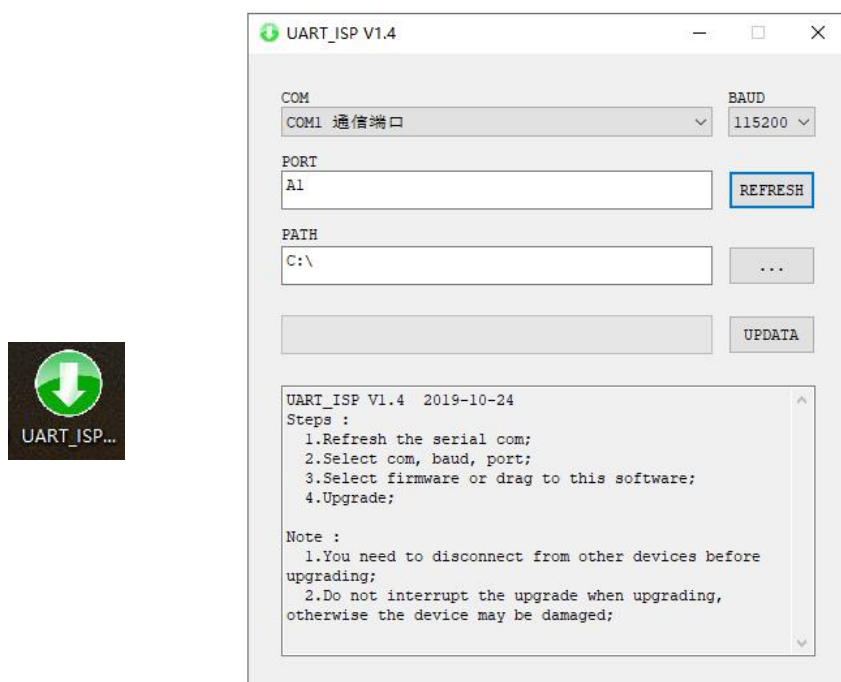
5. DHCP switch is a compound switch. DHCP On and DHCP Off are two choices. When shown Off, it means that the current DHCP is closed, and when shown On, it means that the current DHCP is open (click the DHCP button to switch the DHCP function without clicking Apply).

10. UPDATING FIRMWARE

Product firmware updates, fixes, or functional changes to support program updates. By using firmware USB port upgrade system at the front panel.

The specific upgrade steps are as follows:

1. Download the upgrade files to the computer;
2. Connect with a Micro USB cable to computer ;
3. Run the upgrade software and double-click the program upgrade icon, as shown in the following figure;



Ask the Engineer how to update:

For MCU: Baud Rate: 115200; PORT: A1; PATH: (Updating firmware)

For CPLD: Baud Rate: 115200; PORT: C0; PATH: (Updating firmware)

For WEB GUI: Baud Rate: 115200; PORT: F0; PATH: (Updating firmware)

MAINTENANCE

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

PRODUCT SERVICE

(1) **Damage requiring service:**

The unit should be serviced by qualified service personnel if:

- (a) The DC power supply cord or AC adaptor has been damaged;
- (b) Objects or liquids have gotten into the unit;
- (c) The unit has been exposed to rain;
- (d) The unit does not operate normally or exhibits a marked change in performance;

The unit has been dropped or the cabinet damaged.

(2) **Servicing Personnel:** Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.

(3) **Replacement parts:** When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other Hazards.

(4) **Safety check:** After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.

WARRANTY

If your product does not work properly because of a defect in materials or workmanship, our Company (referred to as "the warrantor") will, for the length of the period indicated as below, **(Parts 2 Year, Labor 90 Days)** which starts with the date of original purchase ("Limited Warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labor" Limited Warranty period there will be no charge for labor.

During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

MAIL-IN SERVICE

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone and/or email address where you can be reached.

LIMITED WARRANTY LIMITS AND EXCLUSIONS

1) This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage.

The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from

accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty

installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Servicer, or damage that is attributable to acts of God.

2) THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the service, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only.)

3) PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.