IP Power ATS 9820 PRO

User Manual

Version: 0.9 (Under development)
Date Released: August. 2026

Warning: Any changes made to this equipment without permission may cause damages to the device!

Notice: This manual is currently under development. The official version will be released at a later date, and we will notify you once it becomes available. If you have any questions, please feel free to contact us.

IMPORTANT NOTICE

1. ATS 9820 PRO was designed for indoor use, we carry no responsibility for possible damages caused by outdoor use, especially in the rain.
2. Please use the power adapter provided by the dealer, we carry no responsibility for the possible damage from using power adapters not provided by us.
3. Do not shake the ATS 9820 PRO in any fashion.
4. Please contact the dealer If ATS 9820 PRO is not working properly.

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International Inc.

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1.Introduction

ATS 9820 PRO is a 8 ports new the Power Distribution Unit (PDU) with **Automatic Transfer Switch (ATS)** for Redundant power protection and Remote PowerControl (RPC) system which **add "Active Spike Filter Design"** in the hardware design and make the system with higher grade stability.

ATS 9820 PRO has the Earthquake event management to provides reliable operation during emergency and disaster scenarios. It can prevent the electronic device electricity interrupt when the disaster happen. It also supports the Earthquake Early Warning (EEW) for power control. (EEW is region-restricted)

With embedded web server and HTTPS protection, ATS 9820 PRO RPO supports higher grade security as working on Internet. User can control power easily and more safely through the web browser in most OS like Windows / iOS / Android system, like Edge, Google Chrome, Safari and so on. There are App for **Android / iOS system** name "IP Power " for user to control the outlet power.

Besides individual power control, user can also check the **current** of each port, **voltage** and ATS 9820 PRO's internal **temperature**, LOG information & send LOG to assign IP(Syslog). There is a E ink display show the IP and the other Voltage /Current /Temperature information.

As support **SSL & SNMP,** user can use public email like Gmail / Hotmail / Yahoo Mail to get the email as the ON/OFF status changed.

ATS 9820 PRO supports **Auto Ping, Time Scheduler** which is more suitable for factory / commercial /office / home automation. User can get the device status in LOG information or in remote IP address which sent to get LOG message from ATS 9820 PRO (SYSLOG).

For system integrator, there are several popular developing tolls like HTTP/CGI command, SSH**, SNMP**

The various applications of the ATS 9820 PRO includes:
Redundant Protection, Multidevice control, Surge Protection Power Measurement, Temperature Detection, Mail notification, External extension support, Mobile App remote control…etc

User Friendly. Convenience & Powerful,

2.Product Information

2.1 Features

1. 8 ports Remote power controller for power On, Off and Reboot
2. Add " **Active Spike Filter** " Design for device higher stabilities.
3. **2 power inputs** support **Redundant power** with **Automatic Transfer Switch** (ATS).

   ***ATS (Automatic Transfer Switch):** Seamlessly switches to an external backup power source when the primary power supply fails. The power switch time in **below 16 ms** as power switching
4. **Dual Ethernet Redundancy:** Auto-failover between two network ports guarantees uninterrupted remote management.
5. **Earthquake management-** The ATS 9820 PRO PDU has the earthquake management setting to helps organizations respond quickly to disaster situations. It can receive earthquake alerts in advance, allowing proactive power management and customer notifications within the warning period. It also supports the **Earthquake Early Warning (EEW)** for power control.

   *** EEW is region-restricted. For any questions, please contact us.**
6. Web Server built-in design, directly control by web browser in PC & Smartphone (WIN, Android & iOS), like Edge, Google Chrome, Safari.
7. **Multidevice control:** User can control the other PDU device through WAN and LAN.
8. **E-Ink Display Panel:** Equipped with an E-Ink panel that displays device information, control status, and earthquake alerts.
9. 2x Power fuse protection with breaker reset button
10. Support **HTTPS,** SSL, TCP/ IP, DHCP, DDNS, SMTP, **SSH** and **SNMP V1 V2 V3**
11. **SYSLOG** : Support Log function & send to assign IP address
12. Time Schedule - can pre-set a suitable time to turn power on / off automatically.
13. **Auto Ping** for network control & segment management automatically
14. **Back Up** for quick setup for multiple devices.
15. Support **mDNS connection**, user can login ATS 9820 PRO without using its IP address.
16. Support public e-mail -- @gmail.com , @yahoo.com , @hotmail. com.....etc.
17. **MP3 Voice notification** support for Power on, I/O control, earthquake event management and sensor(temperature, voltage, current)
18. Specific software developed by Aviosys and provided free of charge :
    - SDK Available : HTTP Command
    - Windows software " IP Power Center " : Control Multiple Aviosys IP Power devices in one software
    - CNT function (Cross Network Technology)- allows user eliminate set up work on any Router without port forwarding, simply Plug & Control through App / IPC software
19. Support accessory for 1U mounting in a 19" rack.
20. **USB Port x2 - To get the information of external UPS device** and **QR Barcode Scanner.**
    *** User also can plug the DO module which support USB connection**
    (1 port USB 2.0, 1 port USB for electricity charge)
21. Support APP for Android or iOS system :

- **Android APP** -- name "IP Power " free download in Google Play .
- **iOS APP** -- name "IPPOWER+ " free download in Apple App Store

IPPOWER+
Aviosys Inc

Specification

- Power input: 100A~240VAC C20 in, 20A
- Maximum of Total loading: 15A / 240VAC, 20A / 100VAC
- Dimensions: 450 x 170 x 45 mm (L x W x H)
- Weight: 1.4 kg
- Enclosure – Matel case in black color
- Operating **Temperature**: 0~45 ℃ / 32~113 °F

2.2 Package Contents

- ATS 9820 PRO
- Terminal block connector x 2
- Mount Ear x 2

- Quick installation & brown box

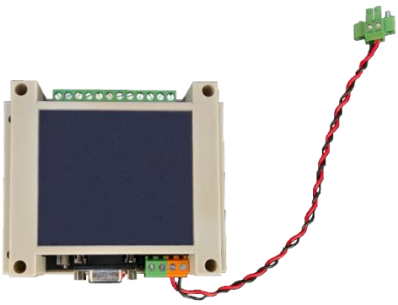
2.3 Minimum System Requirements

- Network & Web Browser & Internet Connection
- Ethernet Cable & Power Cord

* Accessories: (Optional)

4 DO module with USB-RS232 cable

A 4 do module which support the ATS 9820 PRO's DC 12V x 1 (Terminal). Need to plug DC 12V and ATS 9820 PRO USB at the same time



2.4 Interface Description

Outlook:

Front View:

Front : From left to right side	
LED (status)	Display the LED lights as ON (light Green) or OFF (dark green)
Power LED and buttons(L) Output 1~4	In the left of four ports(1~4) LED lights and buttons
ATS mod label	Please refer to **P.11** for the description of this label.
Ethernet	LAN 10/100 Mbps network for Internet x2 -Main port: Net 1, -Sub port: Net 2 ATS 9820 PRO supporting multi-network redundancy. Each port can be connected to a different router. If one network experiences an interruption or failure, the system will automatically switch to the other network, ensuring uninterrupted connectivity and stable operation of the ATS 9820 PRO
Reboot and Reset button **P.S: Please use a tiny pin press the reset / reboot button.**	Reboot: A button to reboot the ATS 9820 PRO Reset : Please keep pressing the button for 5~7 seconds and then release. You will hear 3 short beep sound which show the reset successfully. After reset, all the settings, like IP, password and so on, will be back to Default.
USB port	USB port x 2 Net 1 USB: Connect for external UPS to get power information and the QR barcode scanner for scanning QR code. * User also can plug the DO module which support USB Connection. (For optional accessory) Net 2 USB: Provide power to charge the electronic devices
Power LED and buttons(R) Output 5~8	In the right of four ports(5~8) LED lights and buttons
ATS Mod LED & button	1 button for ATS main/secondary power switch and six LED lights. Six LED lights: For a **description** of the six LED lights works, please refer to **P.10** and **ATS mod label P.11**
DI & PWR label	Please refer to **Page 11** for the description of this label.
PWR	For DC 12V output
DI	2 DI port for dry contact on/off control
E ink display	Show the IP address, Temperature, Voltage and current of each port, QR code for login, login IP list, CGI command log.

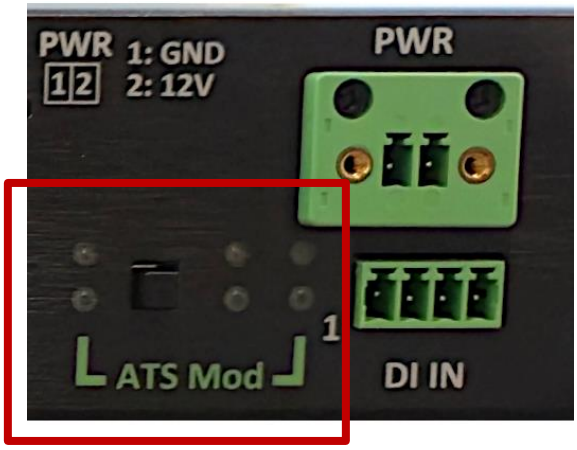
Rear View:

ATS 9820 PRO-T

ATS 9820 PRO-S

From Left side to Right side	
Power Inlet x2 :	100~240 VAC & 50~60HZ , IEC320 C20.
Breaker Reset x2 :	This is Fuse protection to prevent electrical surges from damaging the unit. The ATS 9820 PRO comes with two fuse with two breaker reset in the unit.
8 Outputs:	ATS 9820 PRO-S: IEC 320 C13. The Maximum current of each outlet is **10A / 240VAC .** ATS 9820 PRO-T: NEMA 5-15. The Maximum current of each outlet is **15A / 100VAC**

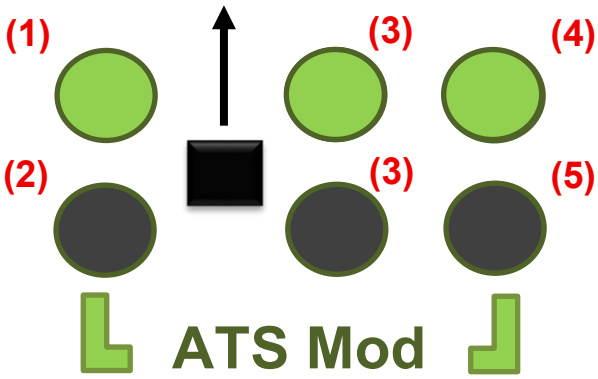
ATS Mod LED lights description:



Light Off

Light On

Switch Power Button



Example pic: If you only connect one power cable in Main or Secondary, it only display one row in Light on status.

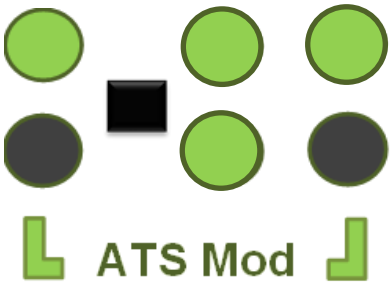
(1)Main / (2)Secondary Power LED Indicator: When the power source is switched, the currently lit Power LED turns off and the LED for the new power source turns on.

(4)Main / (5)Secondary Power Switching LED: When the Switch Power button is pressed, the switching LED moves to the other power source, indicating that power switching is in progress. Once the switch is completed successfully, the corresponding Main Power LED (1) or Secondary Power LED (2) will light up in the same position.

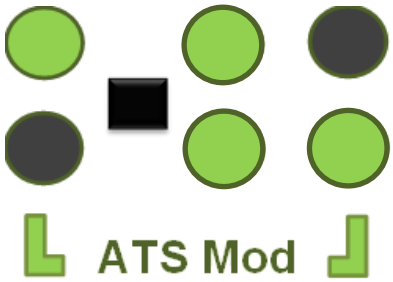
(3)Main/Secondary Power input LED:
This LED lights up when the corresponding power input is connected and supplying power.

Switch Example:

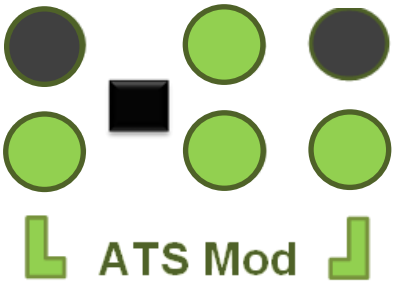
1. Main Power Status



2. Switching power…

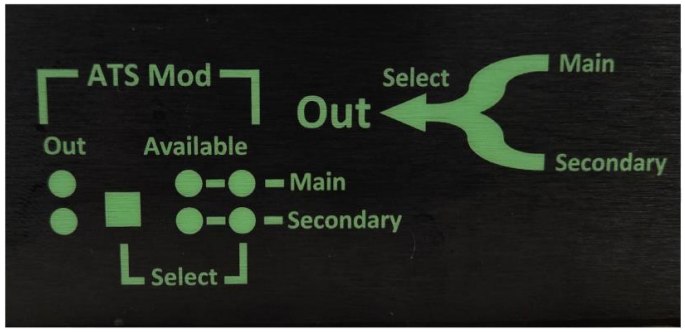


3. Successfully switch to Secondary



ATS 9820 PRO Interface instruction label:

ATS Mod label:



DI IN & PWR label:

This label is designed to provide a quick overview of the ATS 9820 PRO interface, including:

- ATS operating icon
- ATS Mod LED indicator locations
- PWR(DC 12V terminal) location
- DI IN terminal location

The label will be attached to the front of the device, as shown in the figure below.

3.Setting up your device

3.1 Before Starting

* Before setting up the device make sure of the following:

1.) All the package contents are all included if anything is missing please contact the dealer where the device was purchased from.

2.) Check the power input cable is working correctly.

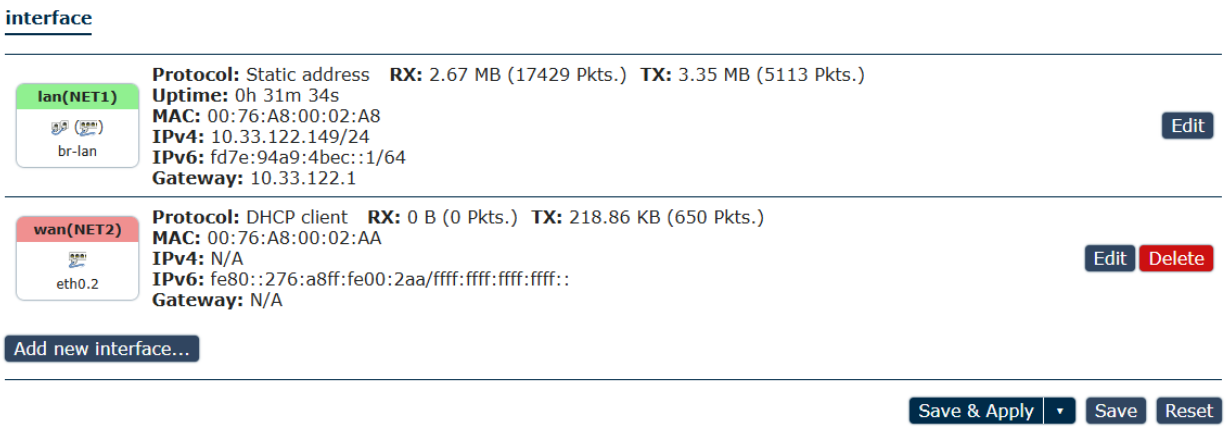
3.) Check all cables to make sure there are no problems with it.

3.2 Change settings

Before you change the settings in ATS 9820 PRO, please read this how the saving settings works in ATS 9820 PRO.

For example:

In the network-interface webpage, we can see this image that settings didn't change before adjustment. In the right-down corner, you can see three icon: Save & apply, Save and Reset.



Save & Apply: Save and apply your device settings.

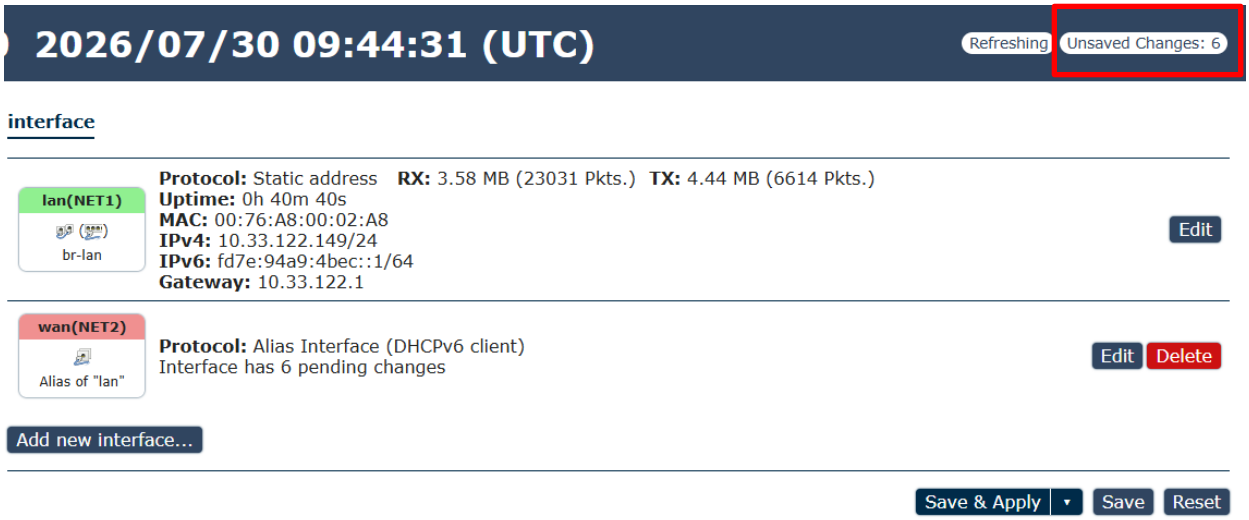
Save: Save only, the device will remain your adjustment, but won't apply the settings.

Reset: Recover the settings before you click " save & apply " or " save " new changes.

*** If you want to change the setting once and for all, then click Save & Apply, the changes setting will apply immediately. But if you want to save the setting but don't want apply immediately, click the save bottom.**

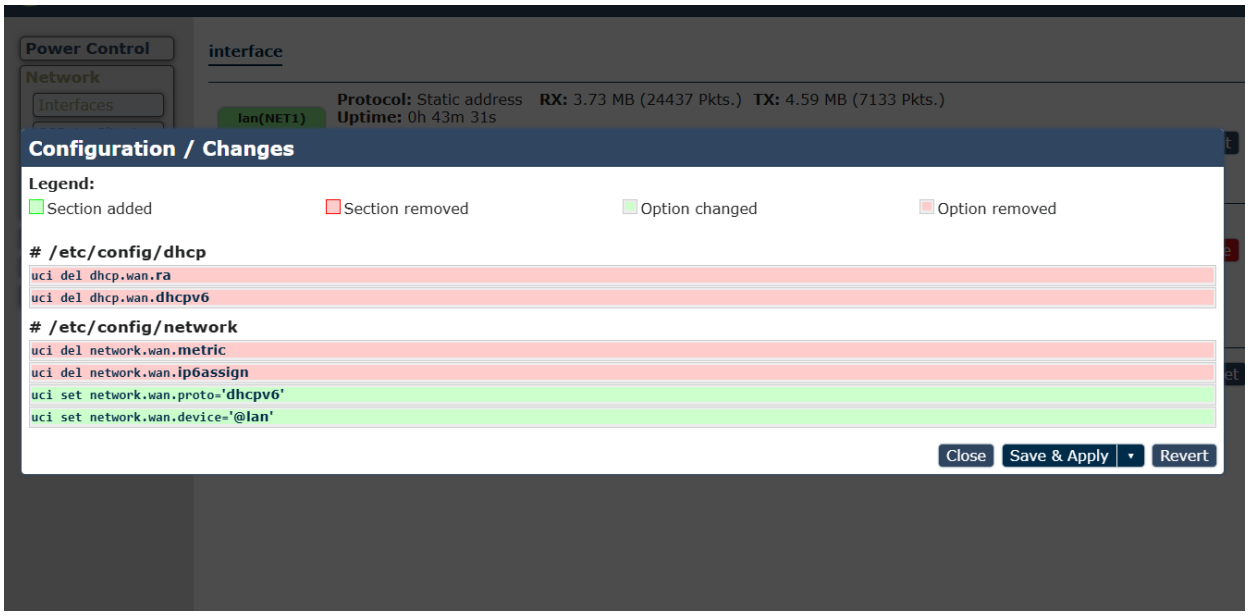
Save:

If you want to change the settings, only click the save bottom, it will happen like this. Not only the setting section changed but also can see the unsaved change in the right top. This means you didn't finish your setting, and the system help you save the setting if you want to apply it.



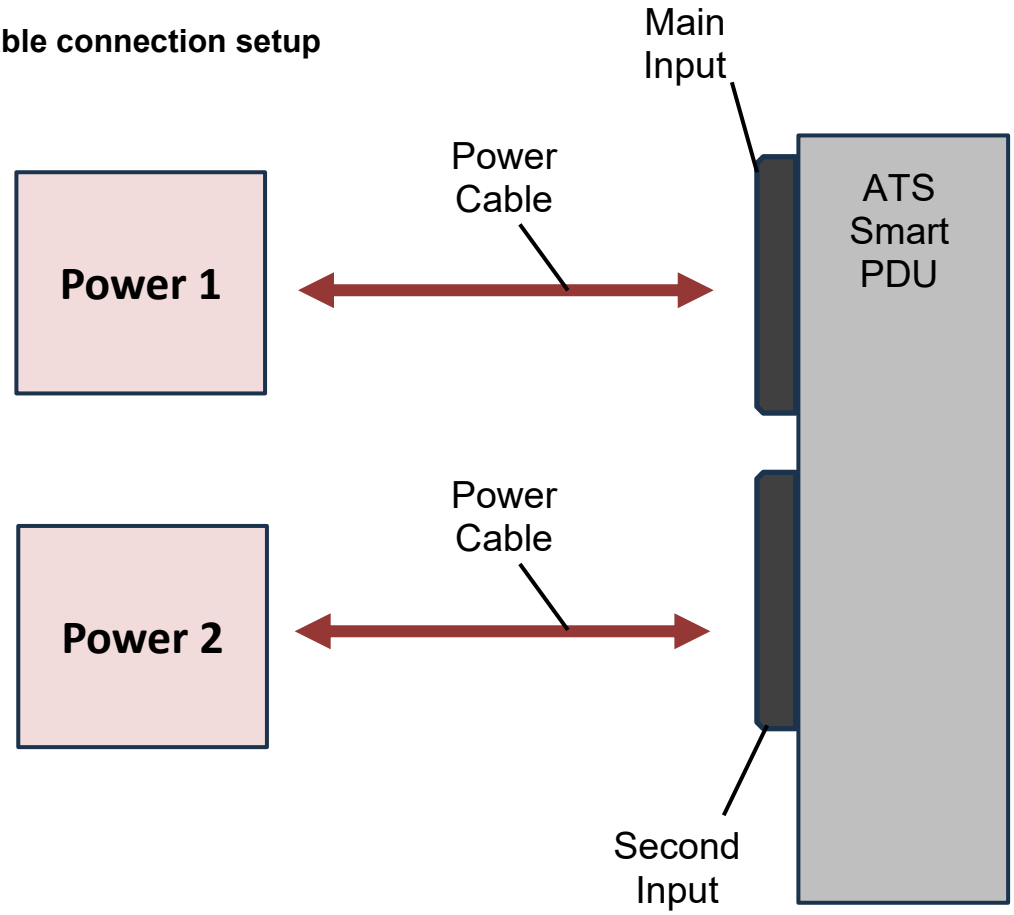
Click the Unsaved changes you will see the small screen shows " Configuration / Changes ". It show the section you have added, changed or removed, the changes based on different colors to show how many section you want apply.

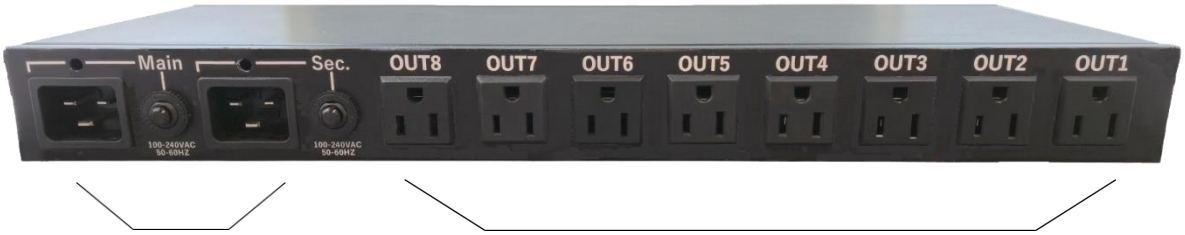
If you don't want " Save & Apply " the settings, click the " revert ", the settings will turn back to the original settings before saving.



3.3 Hardware Connection

3.3.1 Cable connection setup



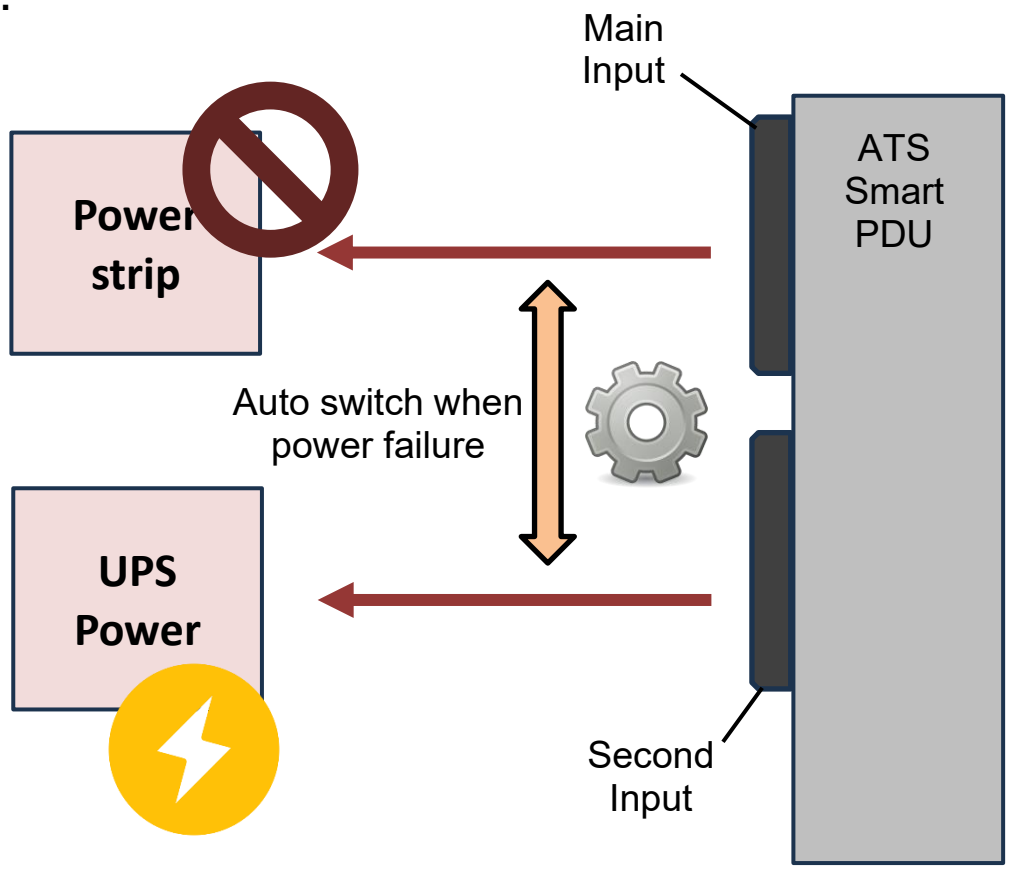


Input connections
From power or UPS output

Output connections to equipment

*** How ATS work in ATS 9820 PRO**

Example:



Assume Power 1 is Power strip, Power 2 is UPS power.

- When the main power source is lost, the ATS automatically transfers the load to the UPS within a very short time. The UPS then seamlessly provides power to the ATS PDU, ensuring uninterrupted operation.

3.3.2 Internet Connection setup

There are two network connection in ATS 9820 PRO:

Net1: Static IP (192.168.1.168)
Net2: DHCP (Assigned the IP by users router automatically)

There are two ways to connect the ATS 9820 PRO, please refer to the following procedure:

(1) Router connection: ATS 9820 PRO → Router → PC ➡ Suggest to connect NET 2
(2) Pc connection: ATS 9820 PRO → PC ➡ Suggest to Connect NET 1
(Need to assigned the IP address to the PC)

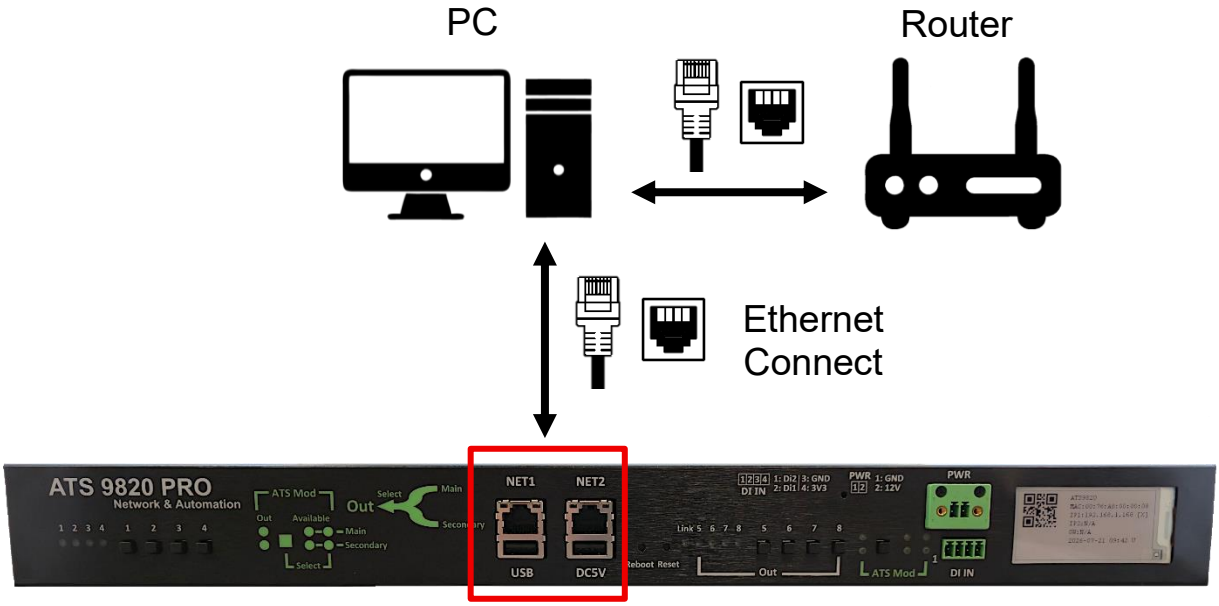
ATS 9820 PRO does not require a specific network connection sequence. Please select either one in the beginning / the appropriate network connection method according to your actual network environment.

* For information about network behavior after a power loss while both network ports are connected, please refer to **FAQ Q5 on P.98**

Please refer to the following procedure:

A. <u>ATS 9820 PRO------- Router ------- PC (with Web browser)</u>

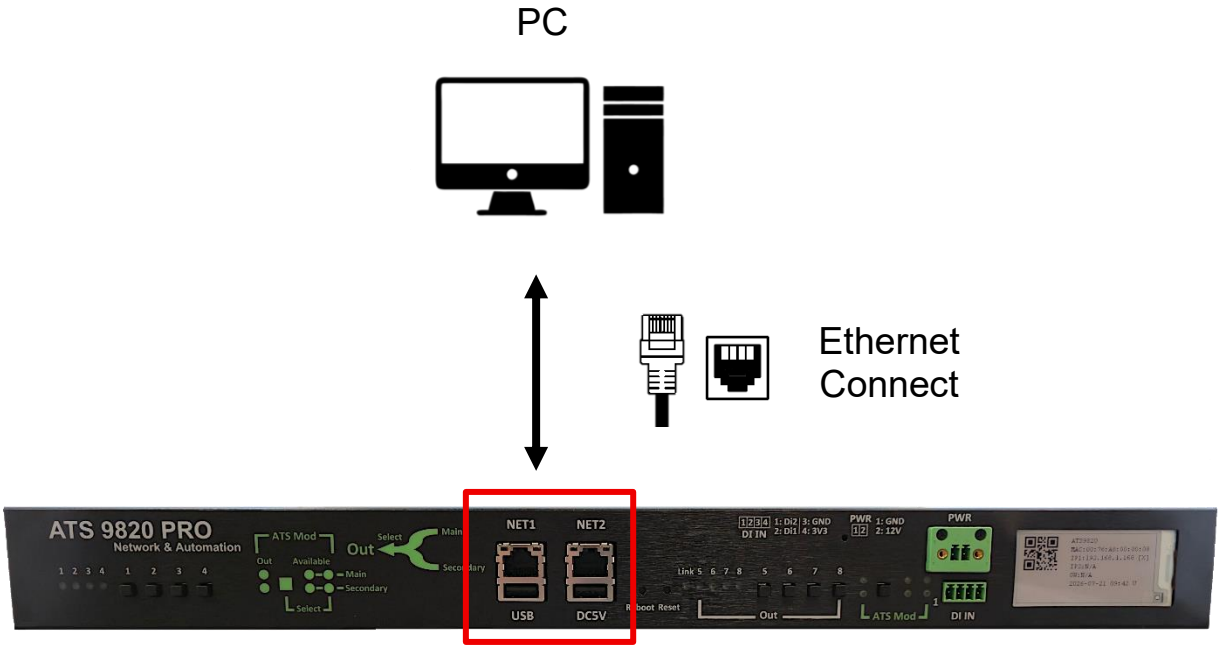
1.) Connect with the Ethernet cable (RJ45) to the ATS 9820 PRO **"NET1 or NET2"** to your local area network(Router).
2.) Then connect the power cable into the power input of the ATS 9820 PRO.
3.) Switching the power switch to ON status, this switch is located at the rear of ATS 9820 PRO.
4.) After power on for around **45** seconds, there is a short beep sound for ATS 9820 PRO which means the system startup successfully
5.) Go to page #17 for software installation guide – use IPEDIT to log in the webpage of ATS 9820 PRO



B. <u>ATS 9820 PRO ---------- PC (with Web browser) or HUB</u>

Default IP: **192.168.1.168** (Static IP)
Default Login username: root
Default Password: 12345678

1.) Connect the power cable to ATS 9820 PRO and press the power switch to ON
2.) After ATS 9820 PRO power on for around 45 seconds, there is a short beep sound for ATS 9820 PRO which means the system reboot successfully.
3.) Then Connect the Ethernet cable (RJ45) to the ATS 9820 PRO to your PC.
4.) Execute the software IPEDIT.exe to get the IP as **192.168.1.168**
5.) Please make sure the IP address of you PC is also 192.168.1.X / XX/XXX or you may not log in the ATS 9820 PRO webpage in 192.168.1.168



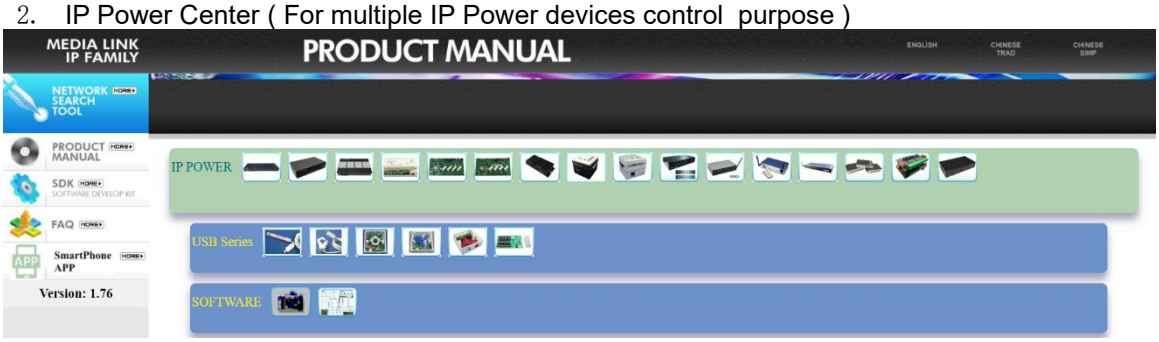
3.4 Software Installation

Please go to our webpage www.aviosys.com/cd to get the software and manual of your product.

Under windows system, we offer two software:

1. IP Edit **1.2.8.4** (Require to search IP address)
   * Please make sure you download the IPEdit version is 1.2.8.4, in order to scanning the Network 2 IP, update or download to Ver.1.2.8.4 is necessary.

2. IP Power Center (For multiple IP Power devices control purpose)



1.) Select the IP Power ATS 9820 PRO in IP Power section

2.) All the available downloads for the ATS 9820 PRO will be shown

3) Download the required software – **IPEdit.exe -** by clicking on the download button.

Then you can select to connect ATS 9820 PRO.

3.4.1 LAN connect by IP search software " IPEDIT "

IP Edit is a search tool designed to search, configure, or access the IP Power ATS 9820 PRO from a localnetwork computer.

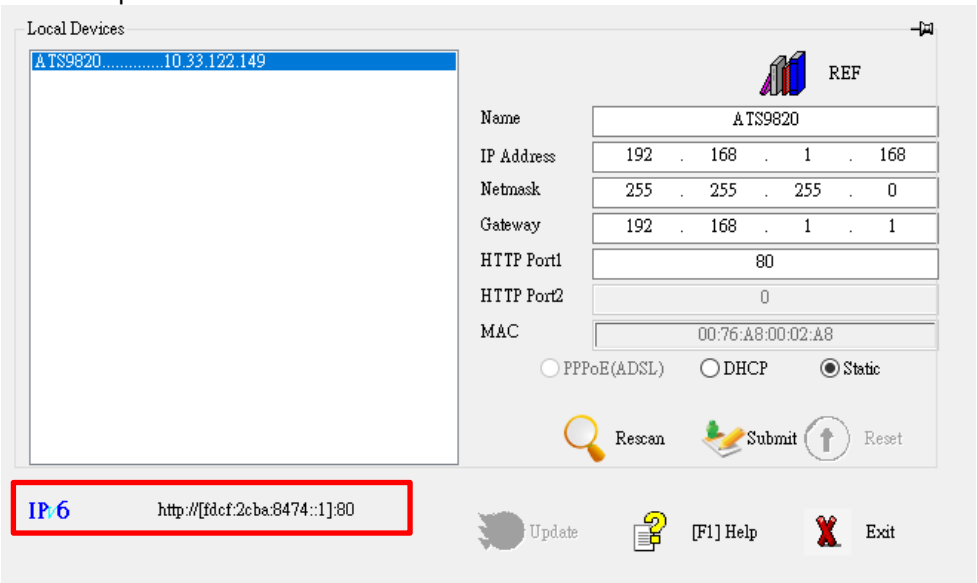
IP Power ATS 9820 PRO Default Login / Password

Default IP: 192.168.1.168 (Static IP)
Default Login username : root
Default Password: 12345678

Please use our IP Search tool " IPEDIT.exe " to get the IP address of ATS 9820 PRO.

1.) In the local devices section user will see user device shows up if connection is correct.

For example:



The default IP of ATS 9820 PRO is 192.168.1.168.

- Red rectangle show the **IPv6** address of ATS 9820 PRO, if you want to login through IPv6, just click the IP in the red rectangle.

To log in to the ATS 9820 PRO directly, please make sure the IP address of you PC is also the same segment as the ATS 9820 PRO, like 192.168.1.XXX (XXX = 1~254) or you may not log in the ATS 9820 PRO webpage as different segment.

User can change the FIX IP mode to DHCP mode through our IP search tool "IPEDIT "or through the ATS 9820 PRO webpage as log in. As change to DHCP mode, ATS 9820 PRO will get the IP address from user`s router.

The way to use IPEDIT to change ATS 9820 PRO as DHCP is as following :

Step 1 : Select the ATS 9820 PRO IP show in the IPEDIT. make sure your device is connect the one you want to modify, check the Mac address. You can check the Mac in the bottom of device.

Step 2: Select DHCP icon and click " Submit " then it will ask to type the username and password.
Please fill admin & 12345678 and click OK / setup.

Step 3: Wait for one minute for ATS 9820 PRO reboot up and click the rescan button in IPEDIT to get the new IP address which is assigned from your DHCP router. Then you can also find the ATS 9820 PRO show DHCP in IPEDIT tool.

Notice:

If can't see the IP in the area of Local Devices of IPEDIT.exe. Please check the following situation

1. **Boot up successfully:** Please reboot the ATS 9820 PRO and check if there are 1 short beep after 1 minutes. This beep means the device boot up successfully. If not, the device may have issue.

2. **Anti Virus software / Firewall:** Please turn off the antivirus software firewall temporary.

3. **Connection:** Please make sure that the ATS 9820 PRO is under same router with the PC used IPEDIT. It is fine to connect across multiple routers but it need to setup the MASK part which need some knowhow.

Notice :
Segment : The first 9 digits of the IP Address .
EX: The IP of user PC is 192.168.1.122. If the " Local IP Address " at Wi-Fi Info is 192.168.1.XXX (XXX can the value of 1~254) , user PC can get into the webpage of ATS 9820 PRO.

3.4.2 Internet Setup

To connect the IP Power ATS 9820 PRO on Internet, there are three ways

- Setup Port Mapping / Port Forwarding in your router. Please check your Router owner's manual .

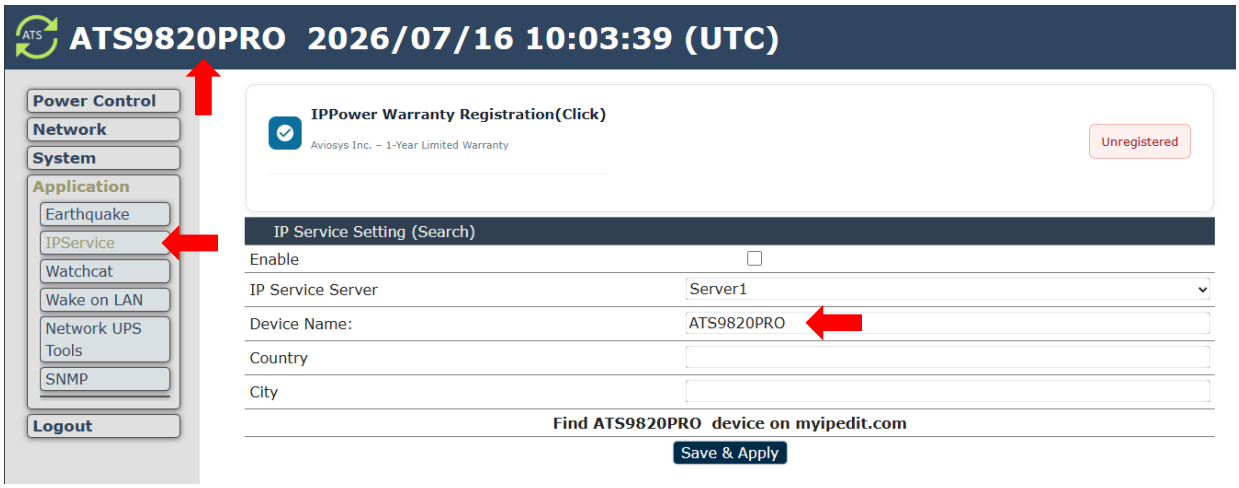
- Use our own software " IP Power Center " : Please refer to the "IP Power Center " manual in software section of www.aviosys.com/cd

- Use mDNS connection through your ATS 9820 PRO MAC address to login. Please refer to 3.4.4.

3.4.3 Using IP Service

IP Service is a function which allows user to search for the device easily without having to remember long complicated IP address. Instead, if user know the device's name of user's IPPower device and user can easily find IP Address with IP Service. ***To log in the webpage of ATS 9820 PRO on Internet, user still need to do the " Port Forwarding " in own router.***

Before using "IP Service ", please change the device name of user ATS 9820 PRO to avoid similarname in Host Server.



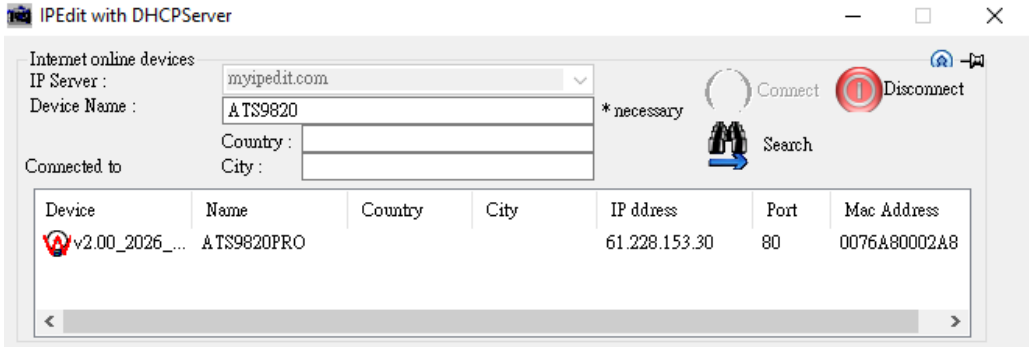
1.) Open IP Edit and select the server that user's ATS 9820 PRO is designated to.

2.) Hit the Green Connect button on the top of IP Edit.

3.) Then type in the ATS 9820 Name that user have selected for the device and press the Search button.

4.) Find user device and double click on the screen and a IE window will pop up connecting to user device. **User device must be Port Forwarded for the login screen to appear.*

EX: The ATS 9820 device name as **ATS9820PRO**, *and user can search the device easily :*



5.) After user has connected to user device, type in the Login and Password for user device

3.4.4 mDNS connection

You can log in to your ATS 9820 PRO without using its IP address. With mDNS support, you only need to type: “ ats9820.local ” to access the ATS 9820 PRO web UI.

Please locate your MAC address, which is on the side of your device.
Or find the MAC address in **“System → information”**
Use the last two digits of the ATS 9820 PRO MAC address to connect.

To find your mDNS, please move to **P.64(4.5.2)** first, and follow the instructions below

1. Only one ATS 9820 PRO connected to the PC

(1-1) Open any web browser (recommend Chrome, Edge).

(1-2) In the address bar, type “ (device name).local ” and press Enter.

E.g.: Your device name: ATS9820PRO. Type: ATS9820PRO.local

2.Multiple ATS 9820 PRO or others ATS 9820 PRO devices connect in the same PC.

(2-1) Find your device’s MAC address, which is located on the side of your device.

MAC example: 0076A8000980

(2-2) Open any web browser (recommend Chrome, Edge)

(2-3) In the address bar, type “ ippowerXX.local ”, where XX is the last two digits of your ATS 9820 PRO MAC address.

Example: If the MAC address is 0076A8000980, type “ ippowera8.local ”

After typing the address in your browser’s address bar, press enter. You will see the login screen. Indicating that you have successfully connected to your ATS 9820 PRO.

4. Web Interface

4.1 Connect to your device

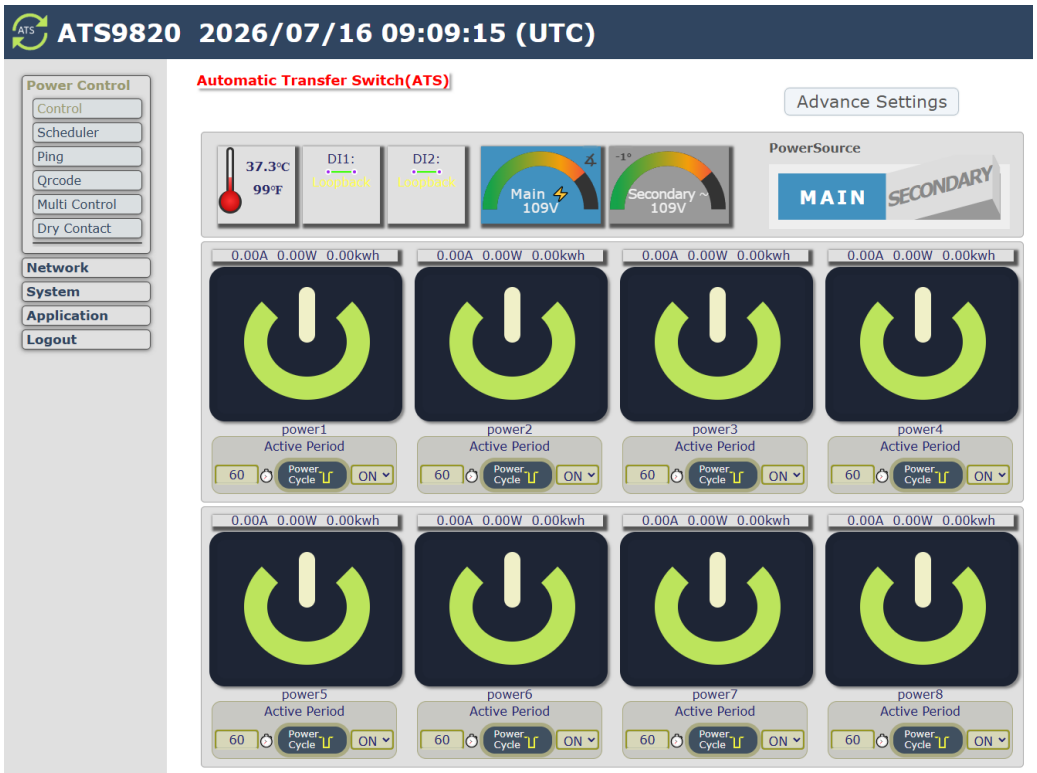
Once the ATS 9820 PRO has been setup correctly, log into the device.

The default Username and Password for the ATS 9820 PRO

Username : root
Password : 12345678

The Control Console

The right side Menu of the Web Interface for controlling the functionality and setup of the IPPower ATS 9820 PRO.



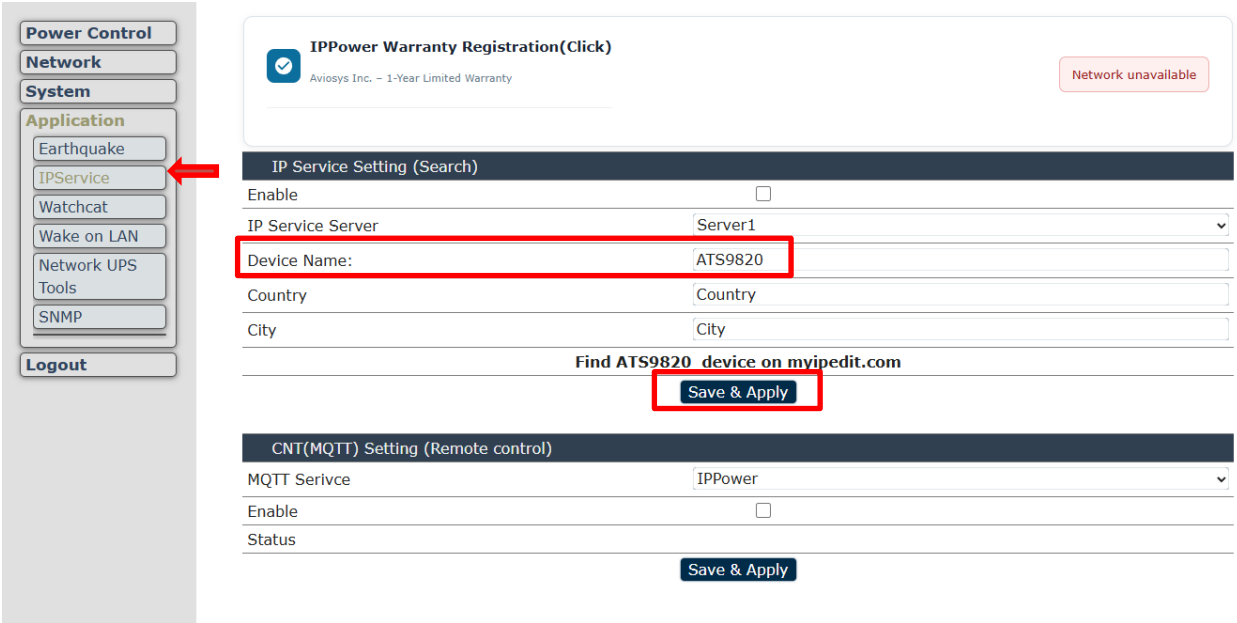
The IP Power ATS 9820 PRO Console consists of six main sections which will be explained in details below.

- **Top Column:** Time information and Device name
- **Information:** Temperature, two input current(main and second input),
  8 ports Current Amp Usage, AC usage and Energy usage.
- **Power Control :** Control, Scheduler, Ping, Qrcode, Multi Control, Dry Contact
- **Network:** Interfaces, 802.1x Client, Firewall, Web port
- **System:** Management, Information, E-mail, System Log, Backup / Flash firmware, Reboot
- **Application:** Earthquake, IPService, Watchcat, Wake on Lan, Network UPS tools, SNMP
- **Logout**

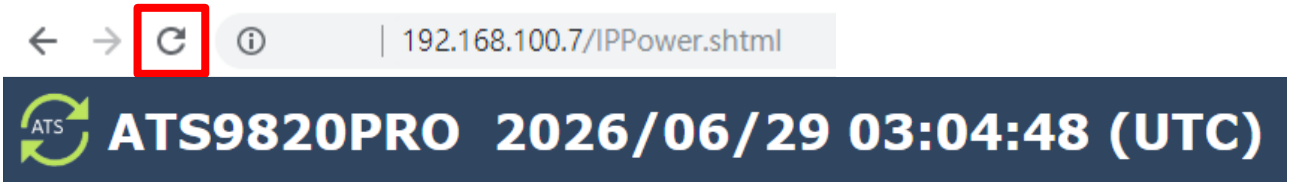
4.2 Top Column

4.2.1 Device name

This section show the device name. You can change the device name here: Application → IP Service → Device name Change name “ATS 9820 PRO” as “Enjoy ATS 9820 PRO ”



Notice : Please do not use symbol like !@#$%^&*()_+ as the character of the device name.



After apply the change, please click “ Refresh “ of the webpage to get the display update .

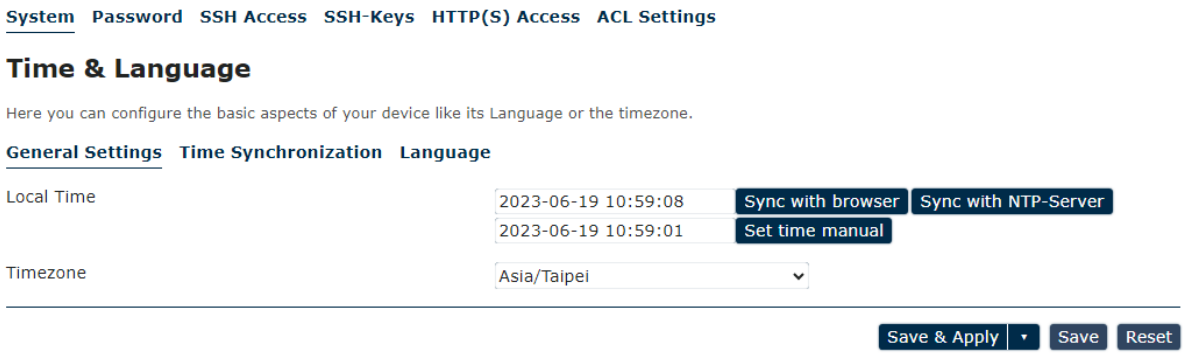
4.2.2 Date and Time

In this section, it shows Time at **Year – Month – Date**, **Hours : Minutes : Seconds**.

To setup the Time, Please go to " System → Management → System (Time & Language) → General Settings ",

In Sync section, user can select the time to sync with local PC browser or with assigned NTP server,

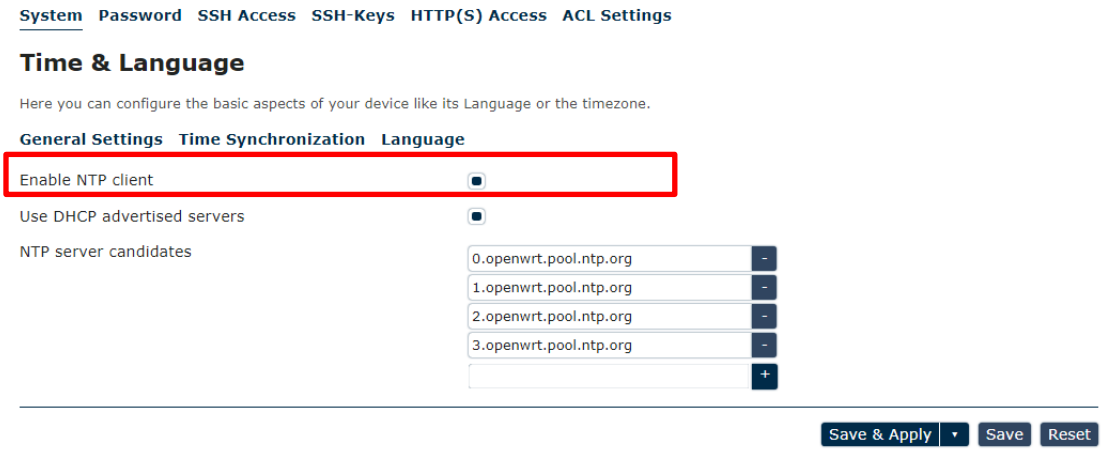
please press " Save & Apply " to save the new setting.



1. SYNC:
(1) With browser: Sync with the browser log into ATS 9820 PRO.
(2) With NTP Server: - sync with the assigned sever and can setup the times for sync.
Move to the " Time Synchronization ", and click the enable NTP client.

2.Timezone: You can choose UTC or other country/region timezone.

To use the time to sync with NTP server, please setup the NTP server in Time Synchronization



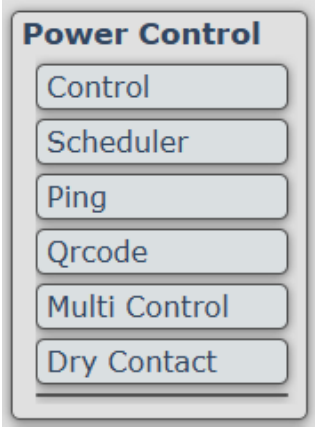
Notice: As using NTP server, as webpage time count will be slower than the device time, please refresh the webpage or use the SSH command to confirm the device time.

```
login as: root
root@10.33.122.149's password:


BusyBox v1.35.0 (2026-01-13 03:11:10 UTC) built-in shell (ash)

   _______                     ________          __
  |       |.-----.-----.-----.|  |  |  |.----..---.-.
  |   -   ||  _  |  _  |  _  ||  |  |  ||   _||  _  |
  |_______||   __|_____|__   ||________||__|  |___._|
           |__|        |_____|
 ---------------------------------------------------
 Enter 'ioctrl -h' for a list of built-in commands.
 ---------------------------------------------------
root@ATS9820:~# date
Fri Jul 17 02:31:45 GMT 2026
root@ATS9820:~#
```

4.3 Power Control

The IO Control Section allows you to directly / automatically control the outlets of the ATS 9820 PRO as well as schedule Once, Daily, Weekly, and power cycles.

There are 6 sections: Control, Schedule, Ping, QR code, Multi Control and Dry Contact



4.3.1 Control

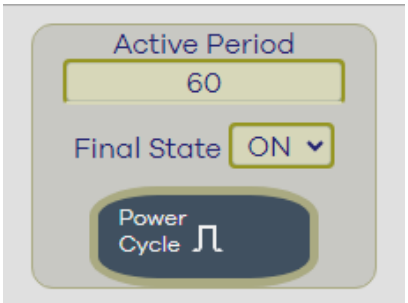
There are 2 setting pages in this Section. One is " Power Control " and another one is "Advance Setup "

A. Power Control :

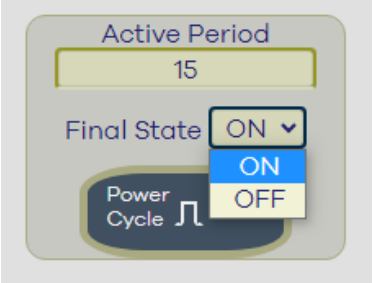
User can do the following 3 basic operation in this page :

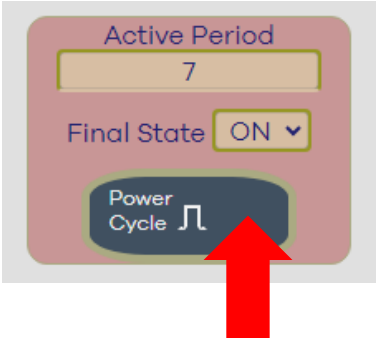
1. Manual control: each port ON or OFF directly by pressing the power sign.

2 Power Cycle control: Manually Control the relay delay to turn ON / OFF.
The relay cycle time can be set from 1 to 9999 seconds



User can set up the time and the final status in power cycle as ON / OFF.





For example : (sec = seconds)

- Original Outlet as " OFF " , select final status as " ON " & fill 15 sec :
  After press power cycle button, the outlet will turn OFF for 15 seconds and then turn ON .

  OFF (15 sec) → ON

- Original Outlet as " ON " , select final status as " ON " & fill 10 sec :
  After press power cycle button, the outlet will turn OFF for 10 seconds and then turn ON .

  ON → OFF (10 sec) → ON

- Original Outlet as " OFF " , select final status as " OFF " & fill 8 sec :After press power cycle button, the outlet will turn ON for 8 seconds andthen turn OFF .

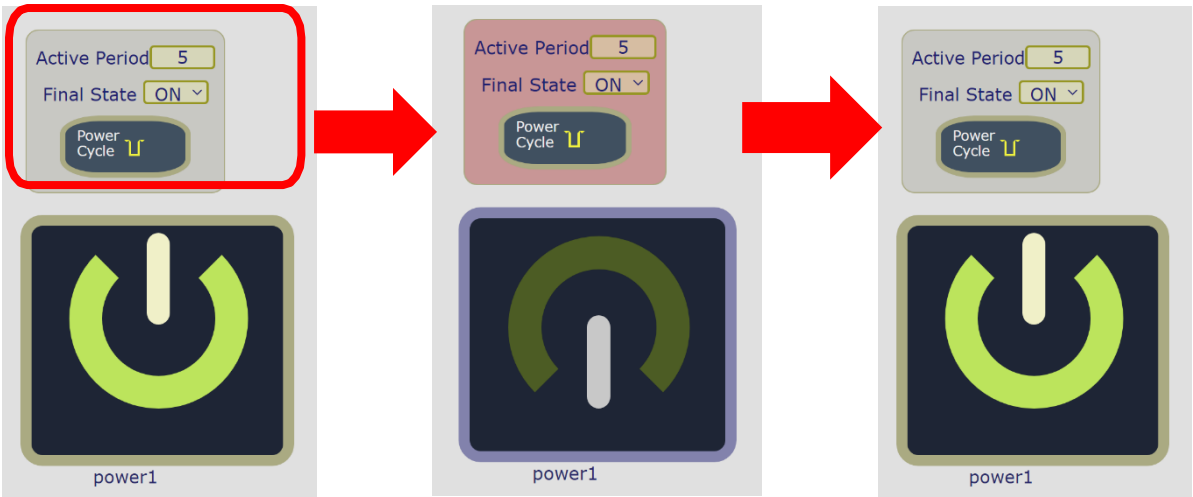
  OFF → ON (8 sec) → OFF

- Original Outlet as " ON " , select final status as " OFF " & fill 5 sec :

  After press power cycle button, the outlet will be ON for 5 seconds and then turn OFF .

  ON (5 sec) → OFF

The following 3 pictures shows that after press the power cycle with 5 seconds setting, the outlet " Power1 " will turn off for 5 seconds , then turn ON later. The power cycle action will execute after press the " Power Cycle " button.

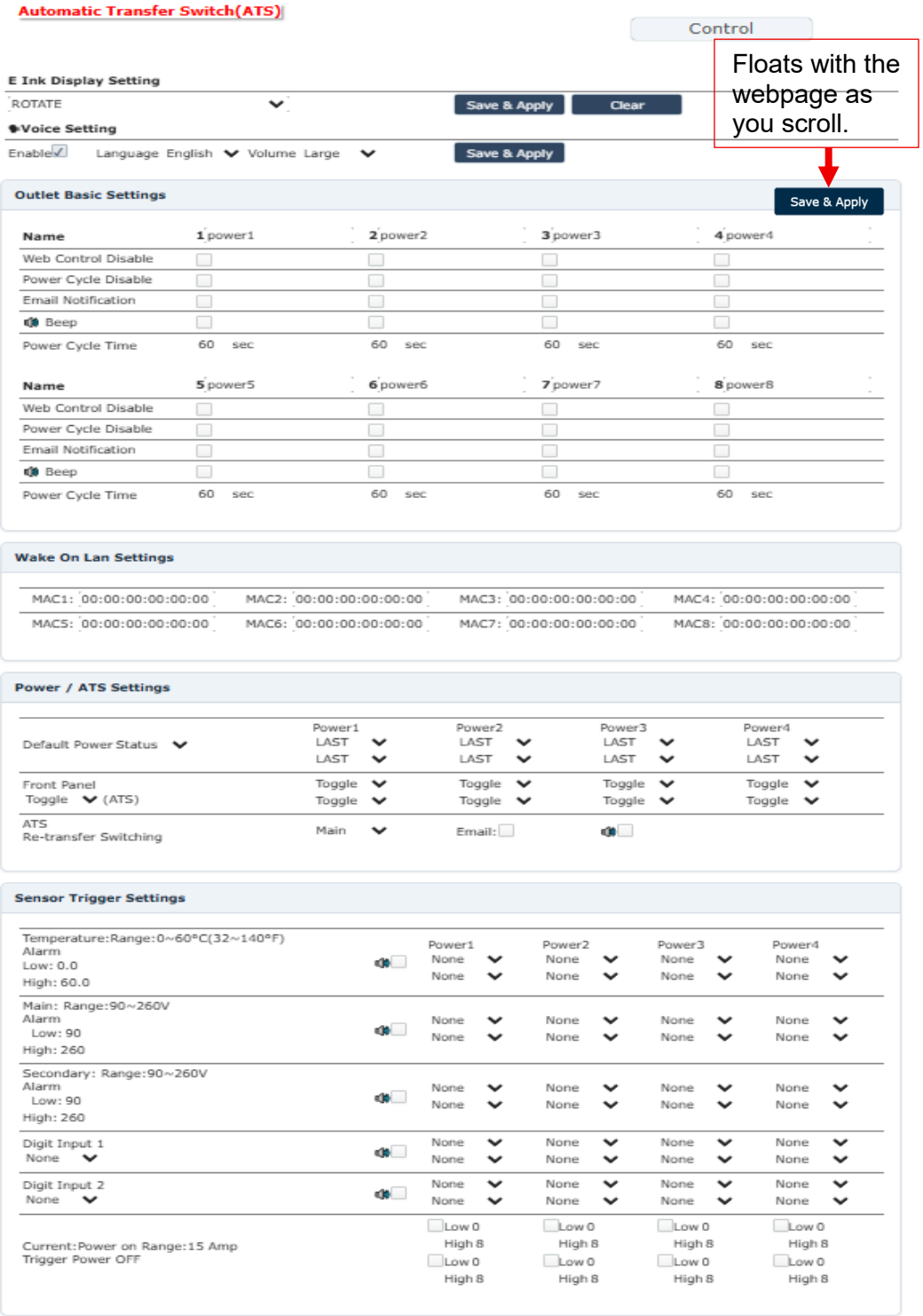


B. Advance Setting :

User can do the following advance configuration in this page :

- **Port Name setting:**

User can name each power by click the name in the right “Outlet name” of 8 power buttons The number of character is max. 12 characters and Please change the name in English only anddo not use symbol like !@#$%^&*()_+



E ink Display Setting:

A. QR code & info B. Current/Volt/Temperature

C. Login IP D. Rotate: Cyclic display switching on the E-Ink monitor

Voice Setting:

A. Enable or disable the Voice notification

B. Language: Chinese or English

C. Volume: Large, Medium, Small

(1) Outlet basic setting:

Outlet Basic Settings

Name	1 power1	2 power2	3 power3	4 power4
Web Control Disable	☐	☐	☐	☐
Power Cycle Disable	☐	☐	☐	☐
Email Notification	☐	☐	☐	☐
Beep	☐	☐	☐	☐
Power Cycle Time	60 sec	60 sec	60 sec	60 sec

- Web Control Disable :
  Stop to control ON/OFF in the webpage manually.
  ATS 9820 PRO will follow control by HTTP/CGI command or by Schedule setting.

- Power cycle Disable :
  Stop to “power cycle” control in the webpage manually. ATS 9820 PRO will follow control by HTTP/CGI command or by Schedule setting.

- E-mail Notification :

Use can enable /disable the e-mail alarm here. Please refer the page 64 to setup the email information in “System “ → Email.

The e-mail alarm section allows ATS 9820 PRO to notify user by following situation :

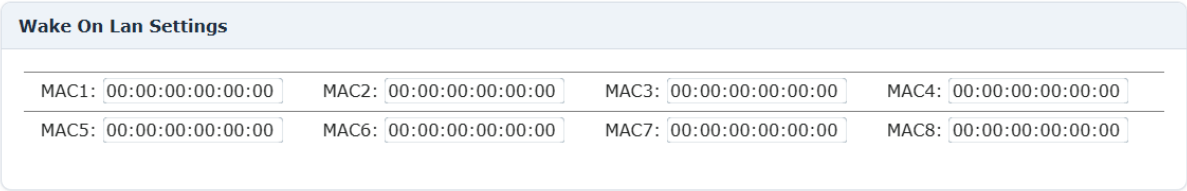
- Receive E-mail with IP information & MAC Address as ATS 9820 PRO device boot up.
- Receive E-mail as ON/OFF status change in output.

- **Beep:** User can setup the operation beep (short time beep) sound here.

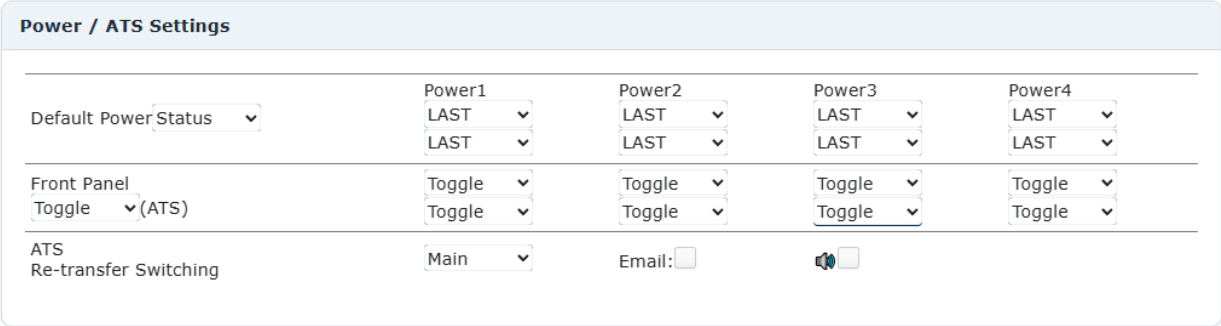
- Power Cycle Time: Setting your own power cycle timing.

(2) Wake on Lan settings:

This is a application for PC / Server / Main board which had been enable the " WAKE ON LAN " function in own setting. User need to know the MAC address of the PC /Server to do the wake up on LAN function.



(3) Power / ATS setting:



- Default Power:

  Status mode: The control section allow user to set the power status in: ON or OFF or LAST when the device power Rebooted. The output will be same status as choose LAST before the device power turn off. To save the setting here, please click "Apply" button.

  Delay mode: on/off options only.

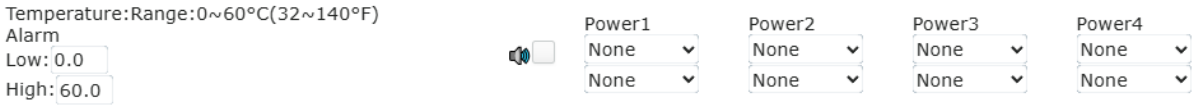
  Front Pannel button toggle (ATS): Enable the power output button or disable the power button

  ATS Re-transfer Switching: Enable or disable the main or secondary power Re-transfer Switching. The Options: Main, Secondary, none

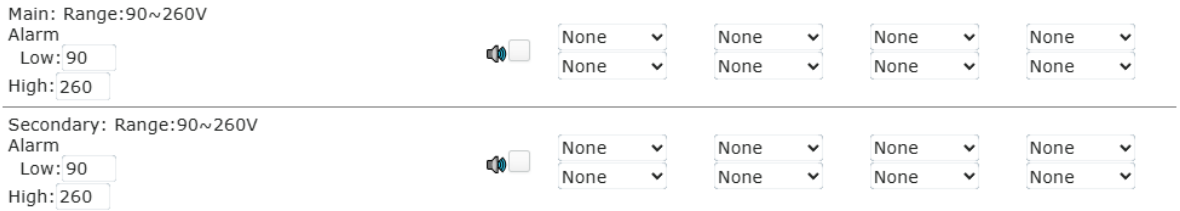
  E-mail notification: Enable / disable, Beeper alert: Enable / disable

(4) Sensor trigger setting:

- Temperature Alarm Setting: to enable the protection as over temperature and setup the maximum value of temperature. The range is at 0 ~ 50 ℃ / 32 ~ 140 ˚F.
  As over the setting value, ATS 9820 PRO will keep beeping for several times and then do the setting ON/OFF/None by user.



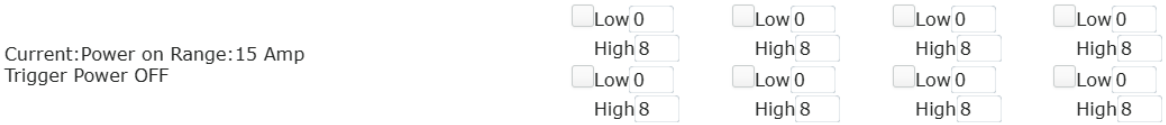
- Voltage Alarm Setting : To set up the maximum value of current limit.
  The range is at 90~260 VAC. As over the setting value, ATS 9820 PRO will keep beeping for several times and then do the setting ON/OFF/None by user.



- Digital Input: To set up the default power setting.

- Current: Alarm Setting: To enable the protection as over current and setup the maximum value. The range of each outlet is 1~15 amp. As over the setting value, ATS 9820 PRO will keep beeping for several times and then turn OFF the power output automatically.

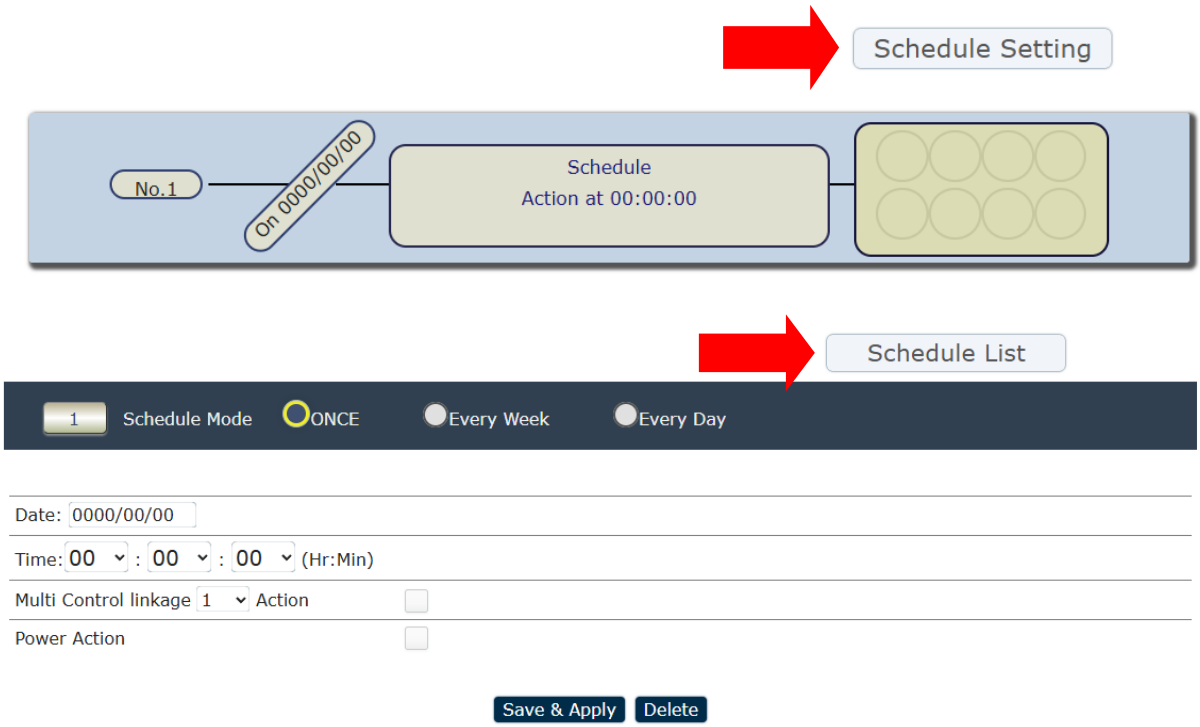
  * Vital: When power range reach 15 Amp/110V, 10A/220V, trigger will force power off.



4.3.2 Scheduler

In this section, user can see the setting schedule list first up to 30 rules. To setup each schedule, please press “ Schedule Setting ”, then user can get the “ Schedule List ” page as following :

Please click the button to switch between “ Schedule Setting ” & “ Schedule list ” :



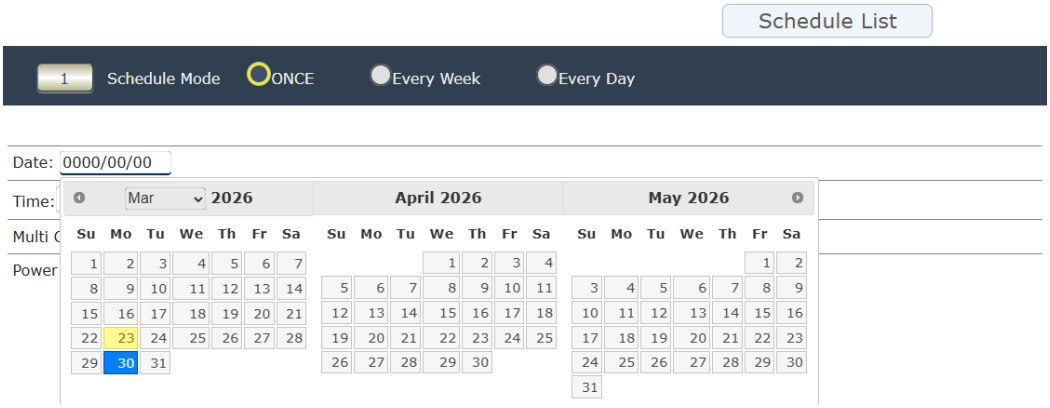
The schedule allows you to control the power outlet turn ON, OFF, Cycle or Reboot at the assigned time user arrange in schedule

- Adding a Scheduled Event

1. Select the Action Duration :

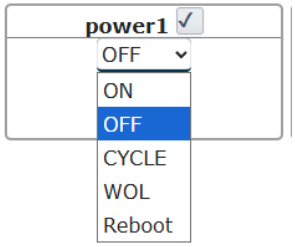
   There are 3 setting – Once, Every Week, Every Day

2. Select a Specific Date Range where the device will repeat the desired actions during the time specified.

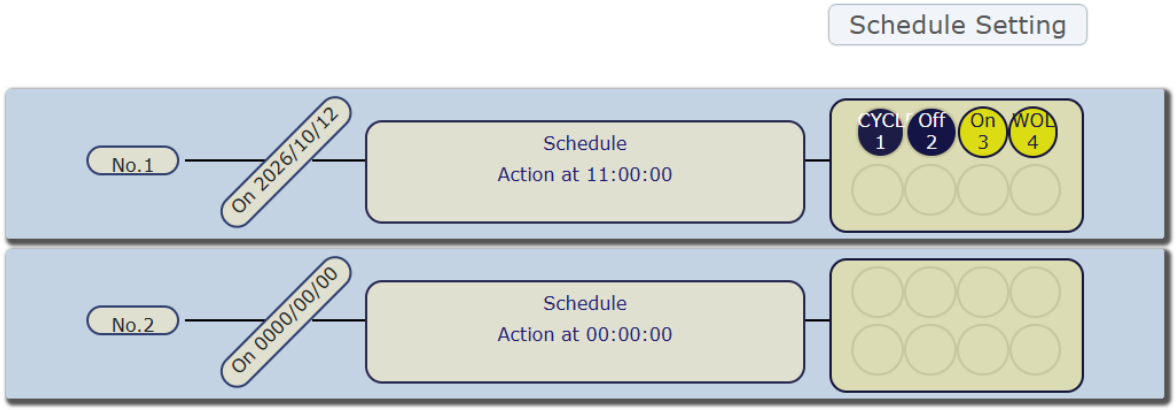


3. Select the Time Period.

4. Choose the Power Action : Enable power # by clicking in the small square to mark “ v ”, and select one from the power action of OFF/ON/cycle/reboot as you need.



Once the scheduler has been Set Up, click the “ Save ” button and you will see your setting located on the bottom of the Action section.



- **Apply / Edit a Schedule Event :**

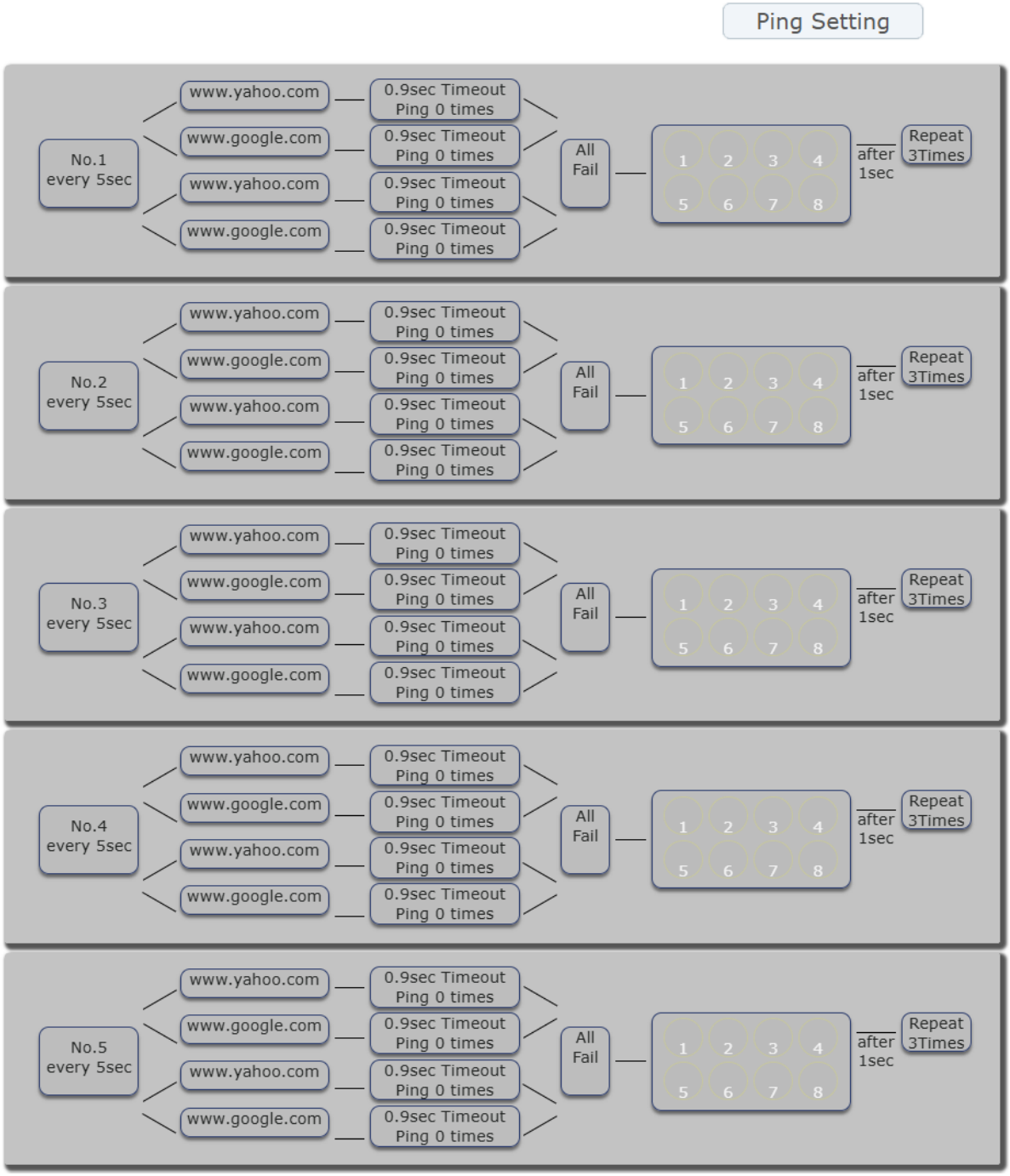
Please select the Rule you want to edit in Scheduler Table. Change the setting like Duration , Date , Time and Action. Then Press “ Save ” button to confirm the setting and you will see the page refresh and new setting display in Scheduler list

- **Delete - Click** “ Delete ” button to remove a rule from the list .

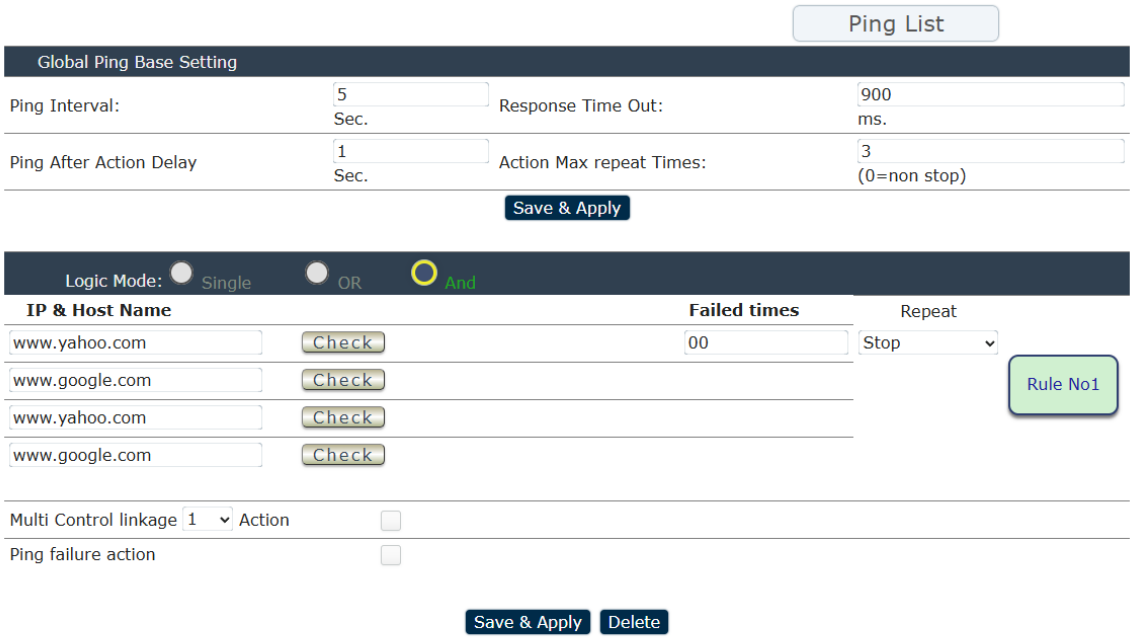
4.3.3 Ping

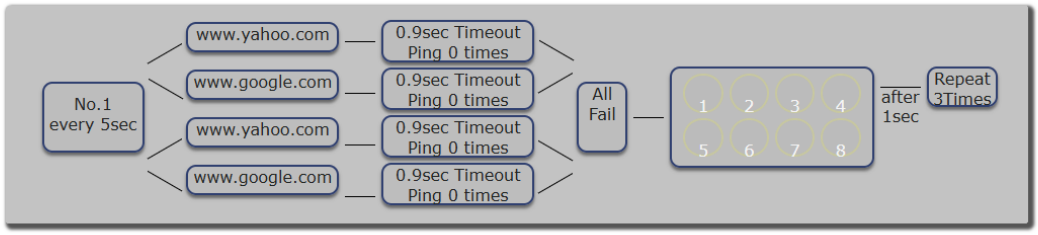
The Ping function allows the device to Ping an IP Address automatically to act as a watchdog to make sure the device getting Ping and working properly. Please Click the button to switch between " Ping Setting " & " Ping List ". User can hide the setting section by press " Ping List ".
There are 8 rules for Ping.

- **Ping List Page :**



- **Ping Setting Page :**

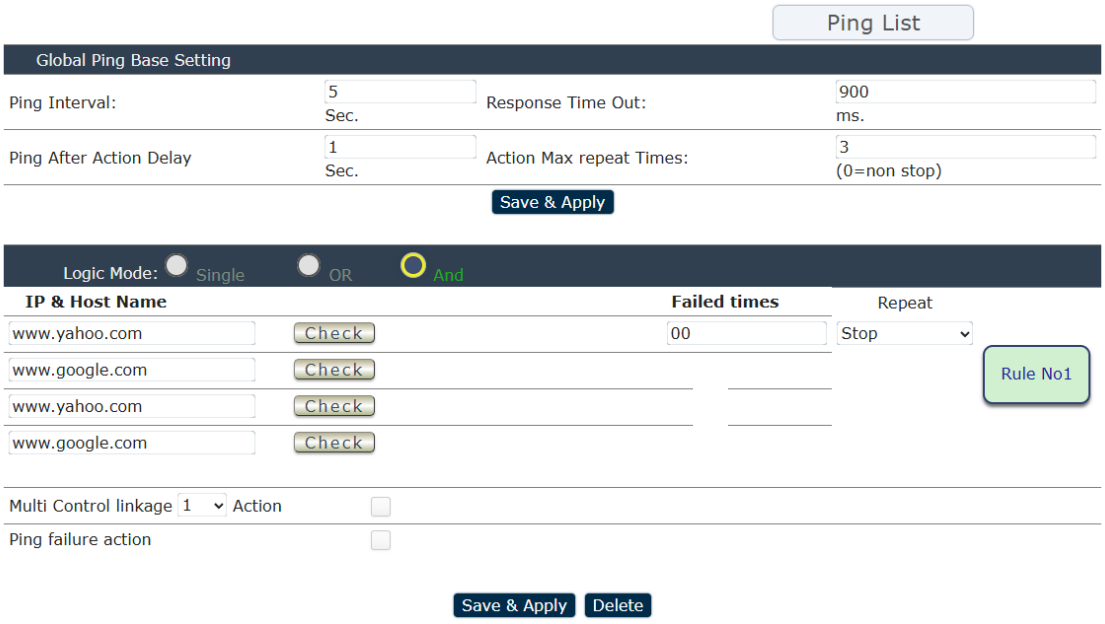




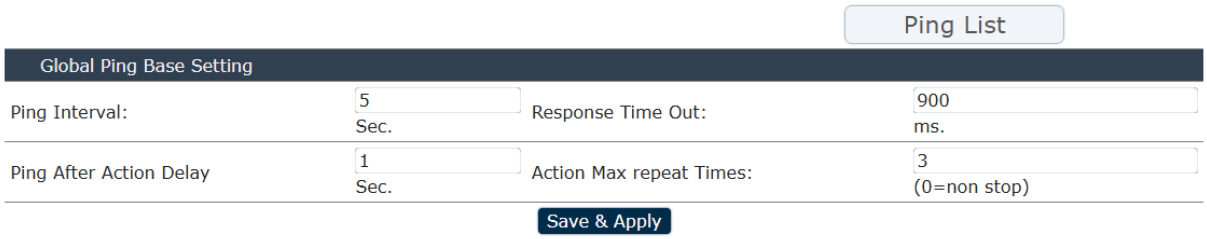
There are 3 sections of the setting area:

1. Setting Rule Numbers:

User can click to select different rules numbers at the right side button " Rule No: X " as following pictures.



2. Ping Set:

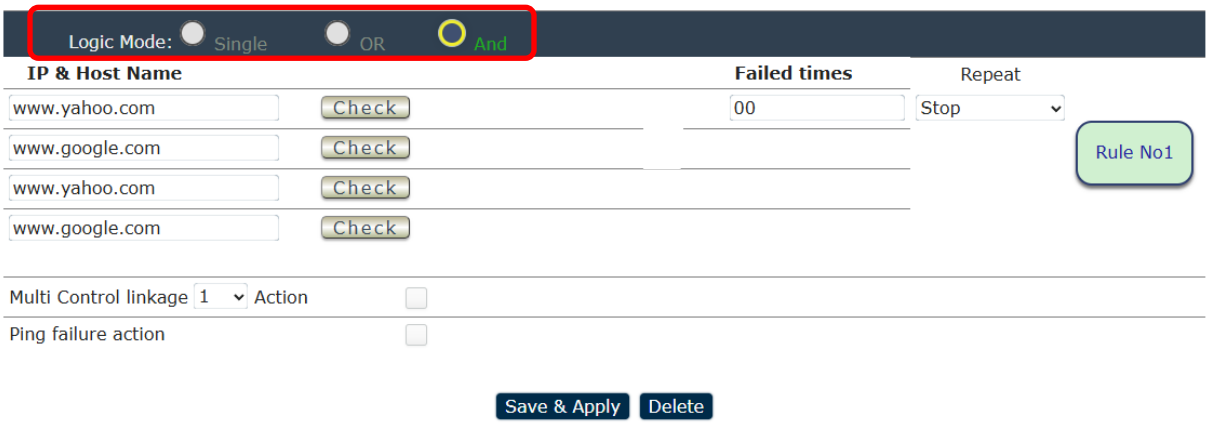


- Ping Interval : The number of seconds (Sec., 1~9999) between each ping .
- Response Time out : The number of milliseconds (ms. ,1~9999) of the device will wait for aresponse from the Pinged device if no ping is detected within this time it will be considered a Ping failure.
- Ping After Action Delay : After ping finished, do the action after setting seconds (Sec.)
- Action Max repeat Times: Setup the times of Action after Ping Failure.
  Set 0 means action non stop - Keep action & no limit times.

As setting finished, please click " Apply " to save the setting in this area, the webpage will refresh and user can see the final setting result. Ten different set up rules for different port.

3. Ping logic :

The setting here is for each rule.



- Ping logic:

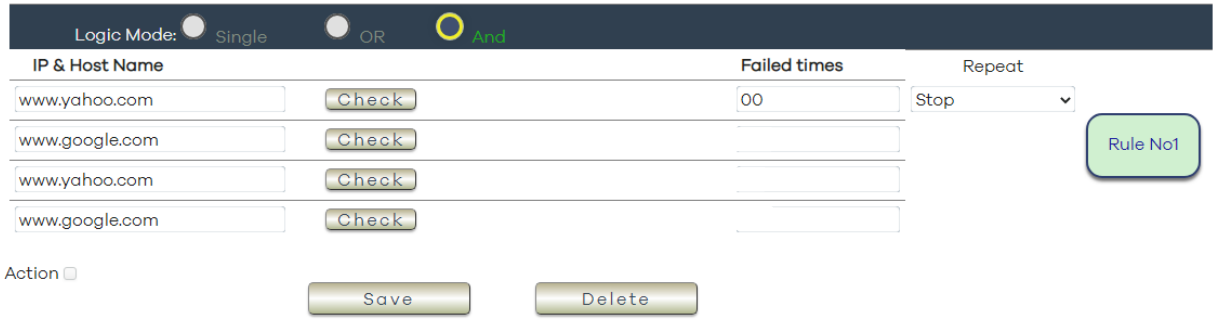
User can select the action activate by one / two IP Host failure or either one fail

- Single : Execute Action by one IP Host failure.
- OR : Execute Action by either one IP Host failure as setting **4** IP Host
- And : Execute Action by both IP Host failure as setting **4** IP Host

Single : ATS 9820 PRO will Ping one IP address. As the IP fail times reach to the setting times. Action (ON/OFF/RESET) will be activated.

OR : ATS 9820 PRO will Ping 4 IP address. Either one IP fail times reach to the setting times. Action (ON/OFF/RESET) will be activated.

And : ATS 9820 PRO will Ping 4 IP address. Both IP fail reach to the setting times. Action (ON/OFF/RESET) will be activated.

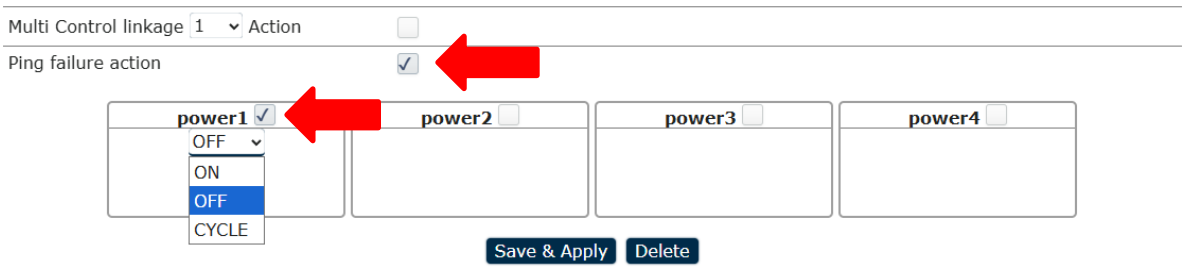


- IP & Host Name : Input the IP Address (ex: 122.116.123.138) or Host - web address (ex: www.google.com) user would like to Ping.
  User can use the " **ping test** " bottom to check the address valid or not

➢ Failed times : Setup the times as get ping failure for ATS 9820 PRO to execute the setupON/OFF / Reset action of setting. ping one time and (range 00~99)

➢ Repeat : After the ON/OFF/Reset action, user can setup the Ping action to keep ping (Continue) or to Stop Ping (Stop).

➢ Enable Ping function: In the selected Rules number, please select the outlet number power to activate as ping fails and then press " Save " button to confirm the setting.



➢ Multi Control linkage: Link with your Multi Control group (1~8) setting and sync the PING setting. Click the location icon to enable the function. (please refer to 4.3.5)

➢ Action :

When the number of Ping Failures times have been reached. The device can be set to " ON , OFF or Reset " function.

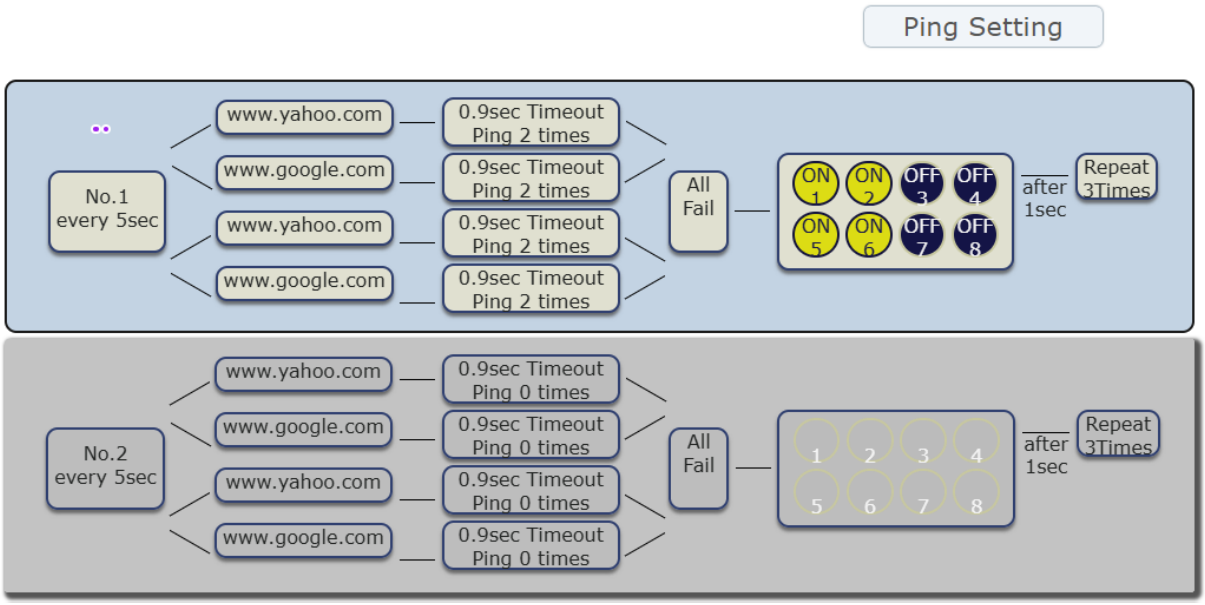
Reset: Can set up the time gap from OFF to ON. The " Sec " section is for action as Reset only.

- ON
- OFF
- Cycle: It means outlets turn OFF to ON

The setting times range is 1 to 999 sec.

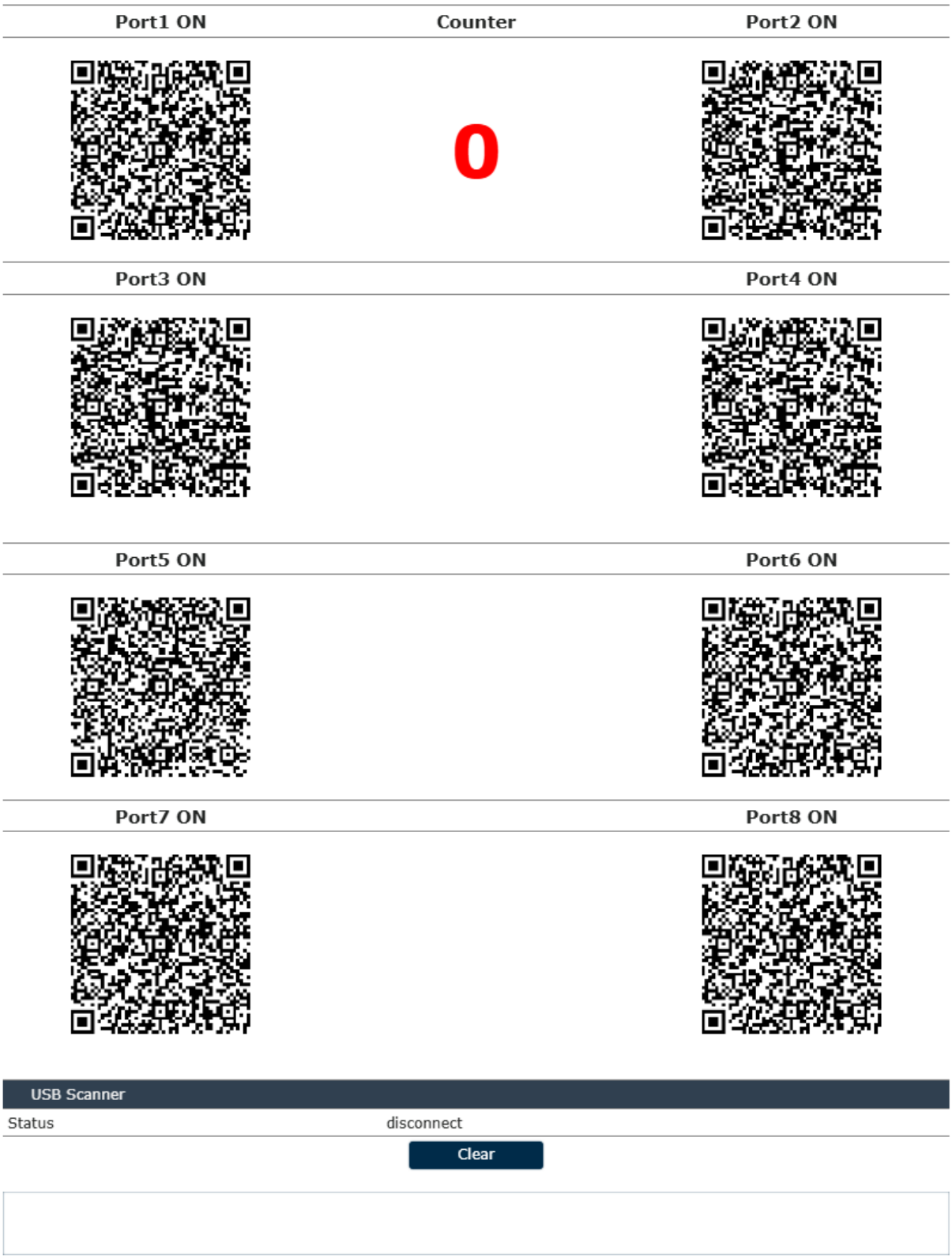
Select the number of Ping Failures that user prefer to do before the action is activated.

EX: Result of setting



4.3.4 QR code

The QR code function operates by using the QR code icon within the device to perform I/O actions, linking to execute actions on scanner ATS 9820 PRO through scanning.

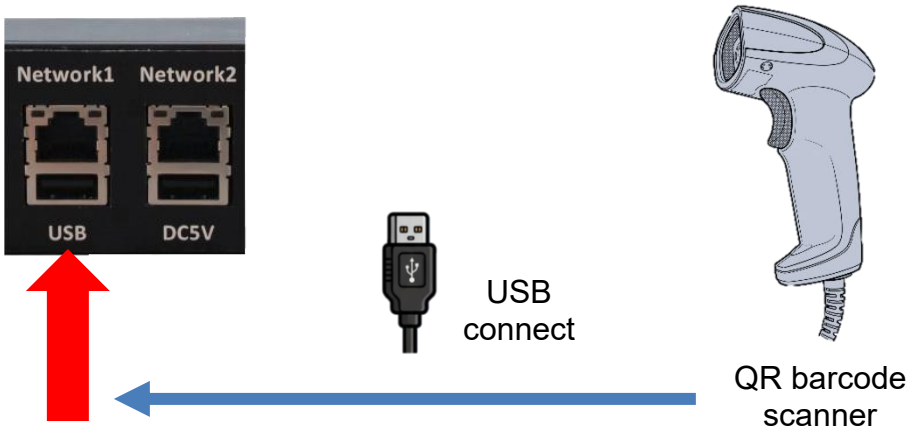


What you need to prepare?

1. A network cable, recommend to use the “thin” cable.(Depend on your install environment)

2. A QR Barcode Scanner for PC (USB)

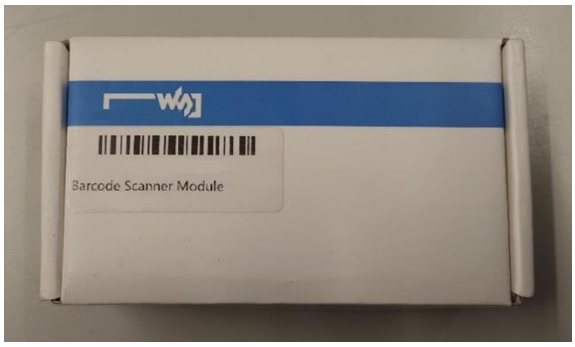
Connect to your ATS 9820 PRO, and plug your QR Barcode Scanner as the red arrow shown.



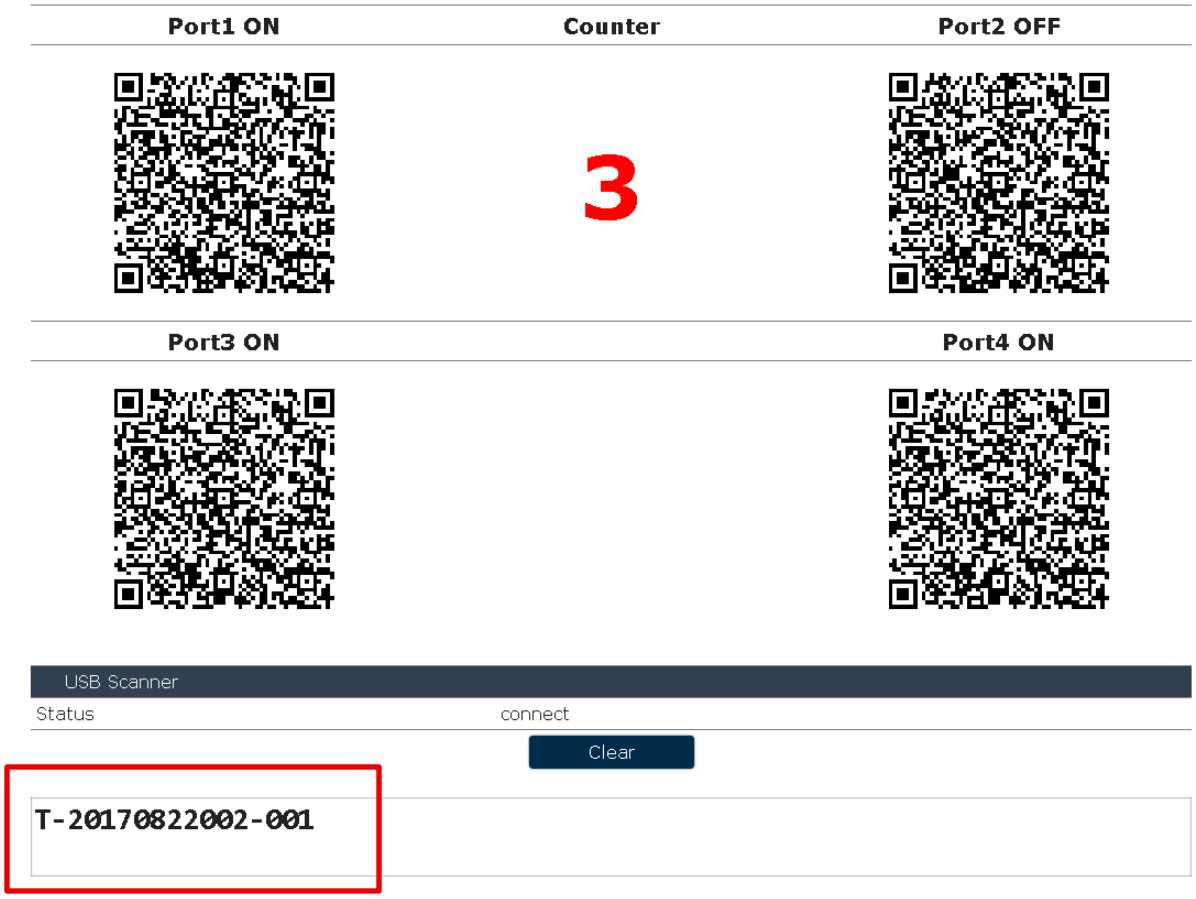
Except QR code, general code scanning can also be applied to the ATS 9820 PRO, but you must first input the settings on the code scanning interface in order to control IO.

Every time you scan the QR code or other code, the “Counter” will count how many you scan it, you can reset to zero by click the apply.

For example:
This is the box with the code and barcode.



When you scan the barcode in the box, you can see the code in the webpage, it shows the number as same as the scanner bar shown. But it won't execute the device operating, you must input the code from the ATS 9820 PRO's manual provide, you can see one of the code in the on/off picture below.



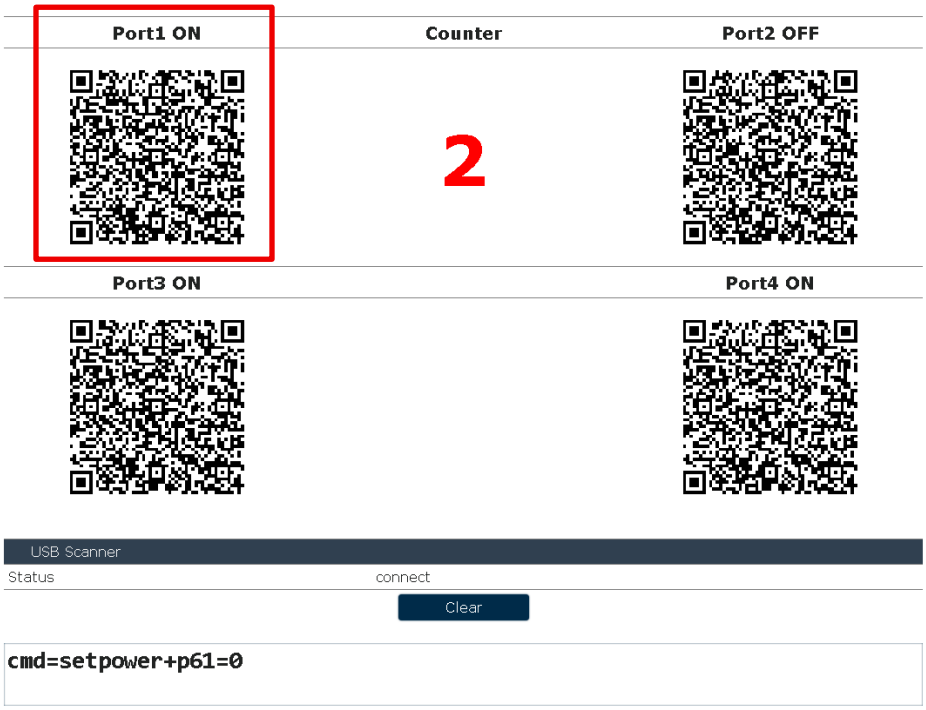
Scanning on and off QR code will trigger the IO control, the QR code and words will change. and will show their command code below.

* The QR code and on/off words will change it's image **in 5 seconds** for each scan.

For example:

I/O control On code:

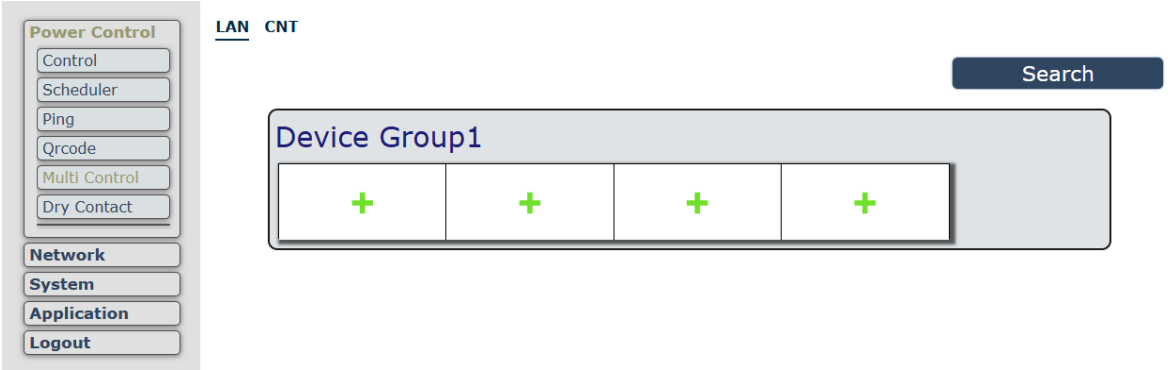
I/O control Off code:



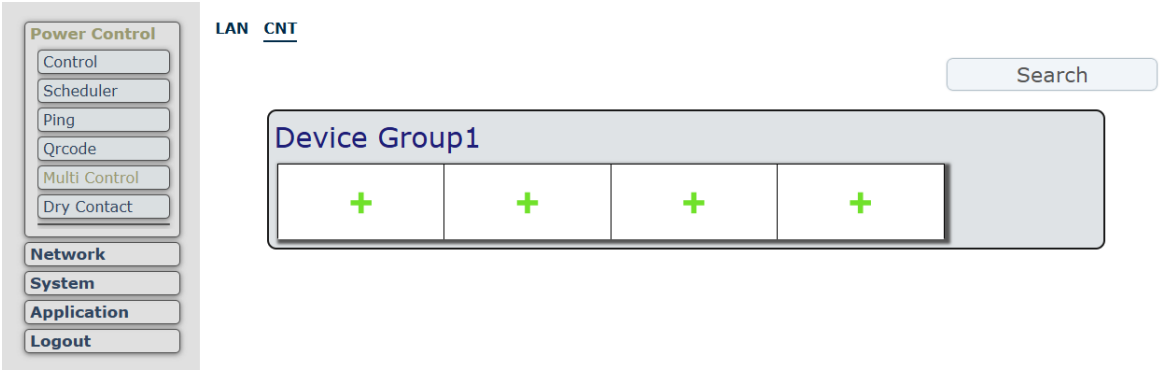
4.3.5 Multi Control

This function provide the user can control other IP Power device in remote.
It's available for LAN and CNT(WAN) control

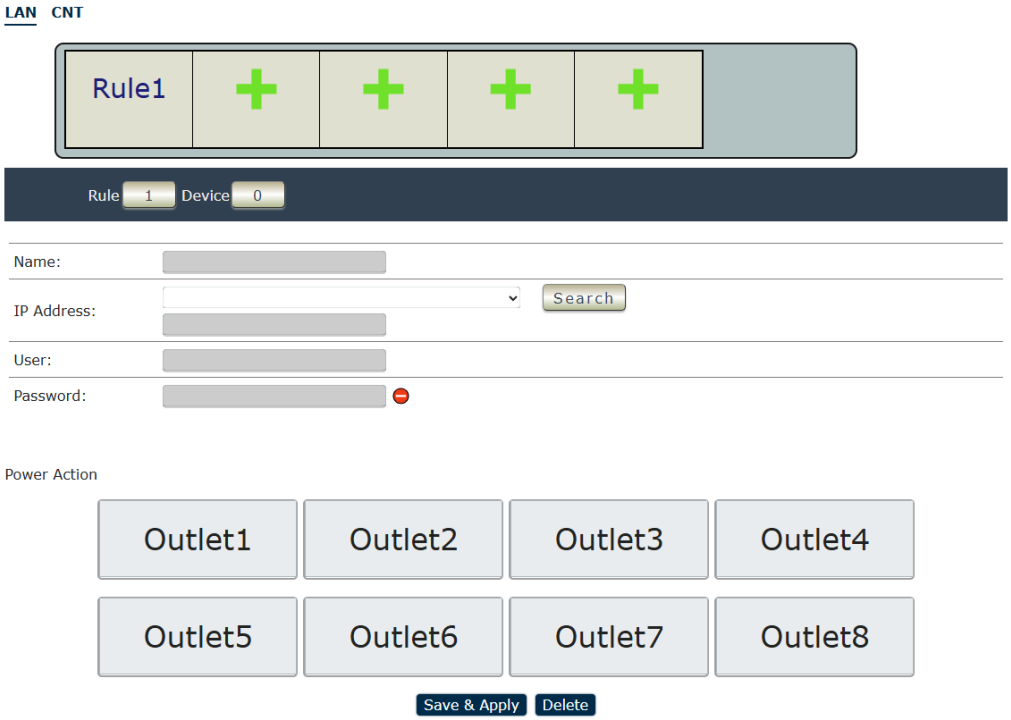
Lan:



CNT:



Settings: To start setting the "Rule", click an icon of "+" icon.



➢ Rule:

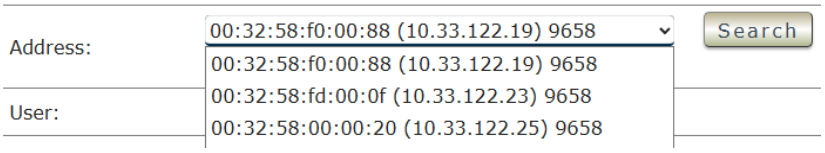
Device: Maximum set 4 rules.

Name: You can name the device for your purpose, Ex: Test 1, Room 1, Office 1

IP Address(In Lan mode): You can type the IP address manually or click the search bottom, the device will automatically find the IP power in the same network regiment.

In LAN mode search:

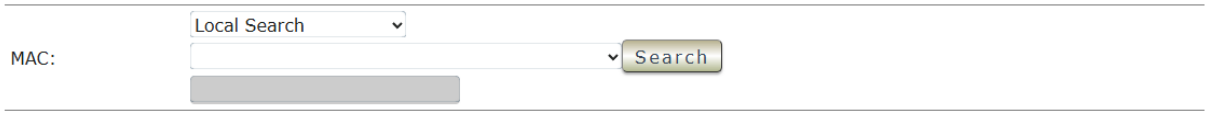
After click the search, you can choose the device you want to configure.



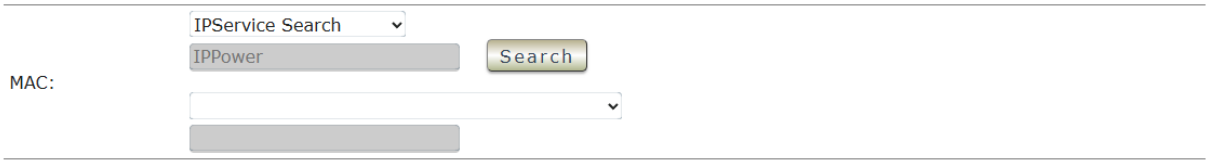
In CNT(WAN) mode search:

MAC: In CNT mode, we find the device through “MAC”, each device mac is different.
There are two way to search the device, one is “Local Search”, the other is “IPService Search”.

Local Search:



IPService Search: (To find other device in “IPService search”, these device must enable the IP service.)



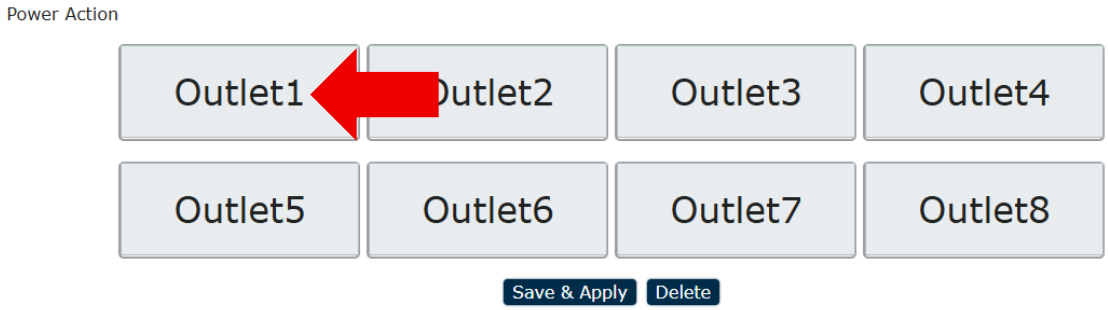
User: The user name of the device you setting.

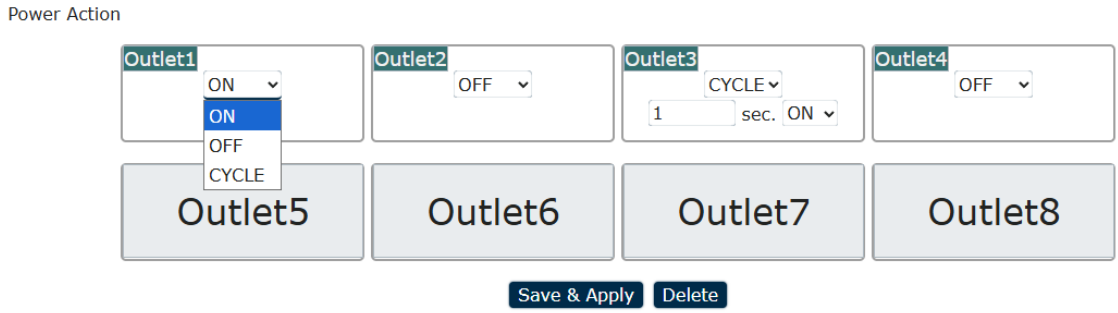
Password: The password of the device you setting.

Power Action:

To setting other IP Power device's outlet, click any outlet any setting the action(on, off, cycle), the number of outlet settings based on your model setting.

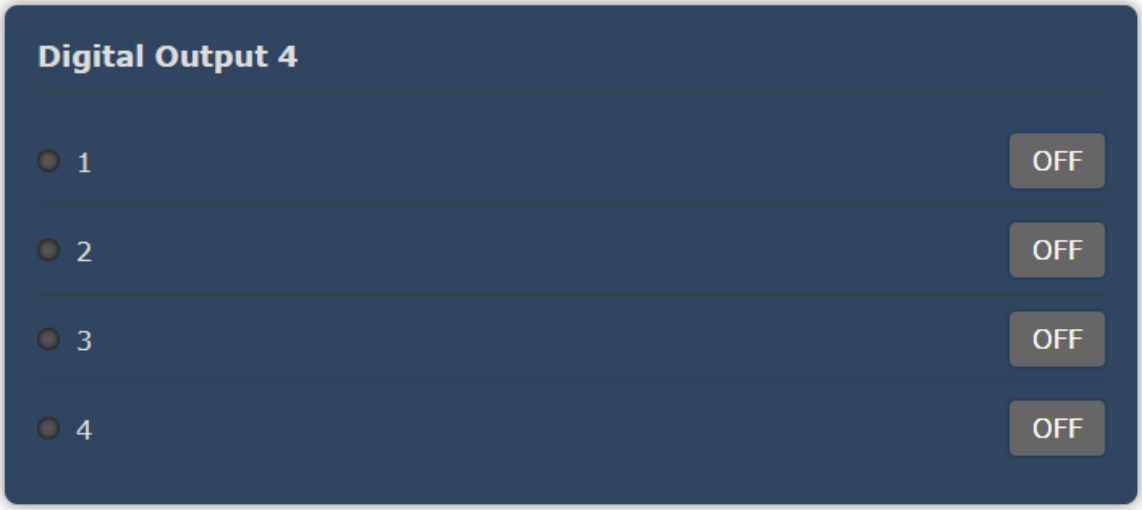
Example: ATS 9820 PRO(8 ports available), IP9658 (4 ports available)





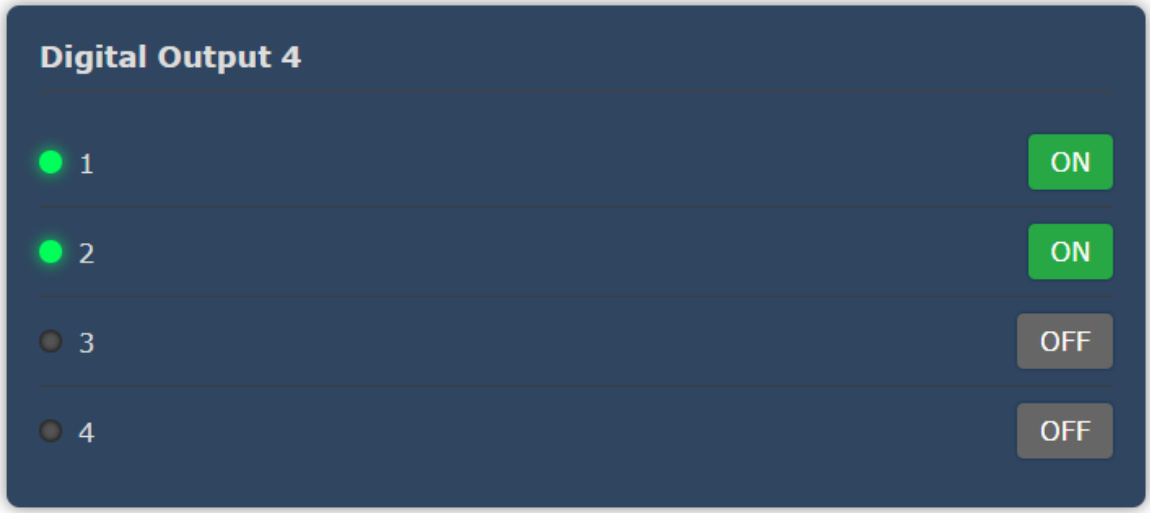
4.3.6 Dry Contact

This function allows user to control the DO on/off directly.

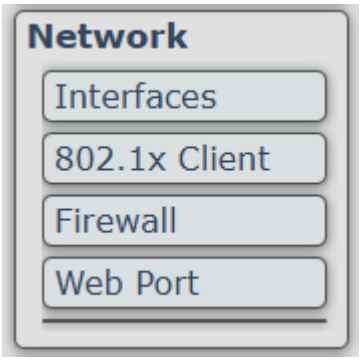


For example:

Choose the DO 1 and DO2 to turn on, click the “ off ” icon, it will activate turn on as green color.
If you click again, it will turn off as grey color.



4.4 Network

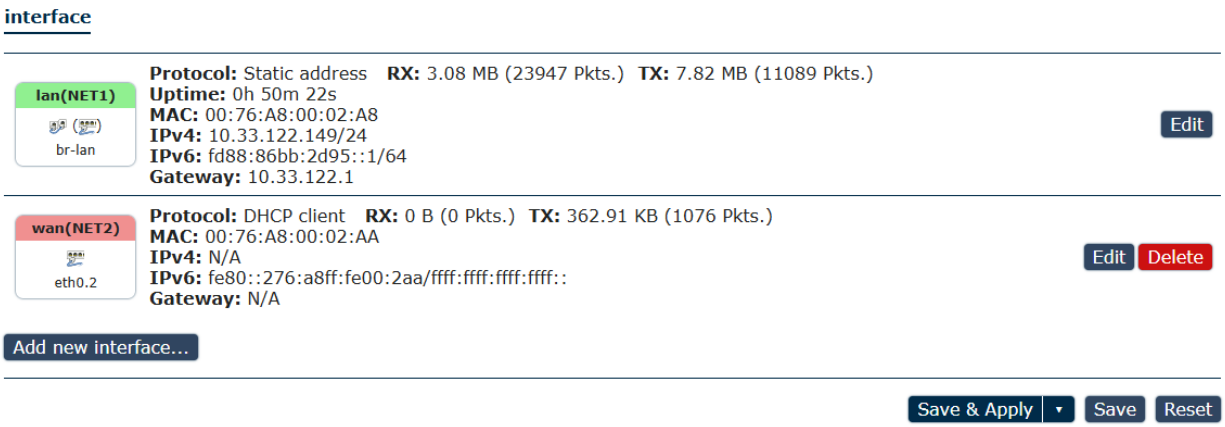


LAN Network Settings

The network status is connected by ether cable with RJ45 connector. There are **3** ways to connect the network : By DHCP Client, DHCPv6 Client and Static address.

4.4.1 Interfaces

The interface shows the basic information of device's network, to change the setting, click the "edit" bottom.

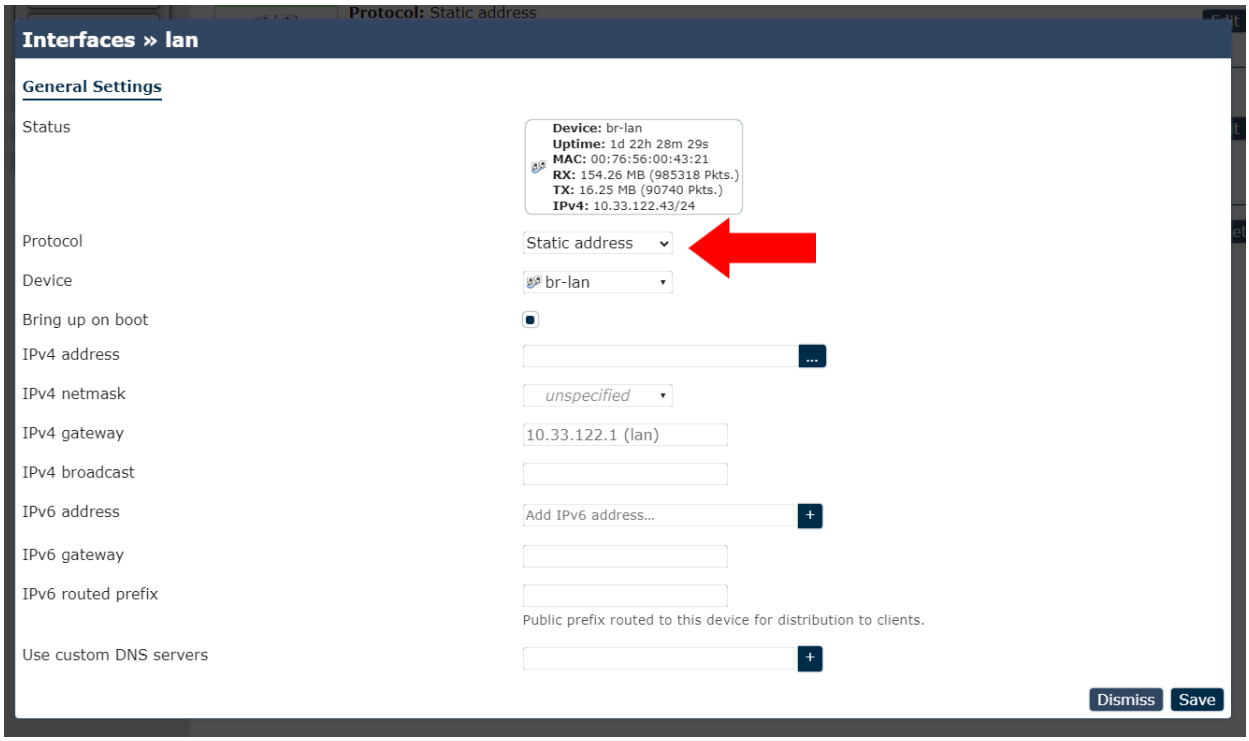


A. Static Mode (fixed IP)

Setup IP address, DNS and Port manually. This allows the ATS 9820 PRO to obtain an IP Address automatically from user`s server connected to Internet. Recommended for users who need tocontrol through Internet.

Please do fill up the correct gateway / port for login from Internet.

Please do fill up the correct DNS server for sending / receiving email (alarm).



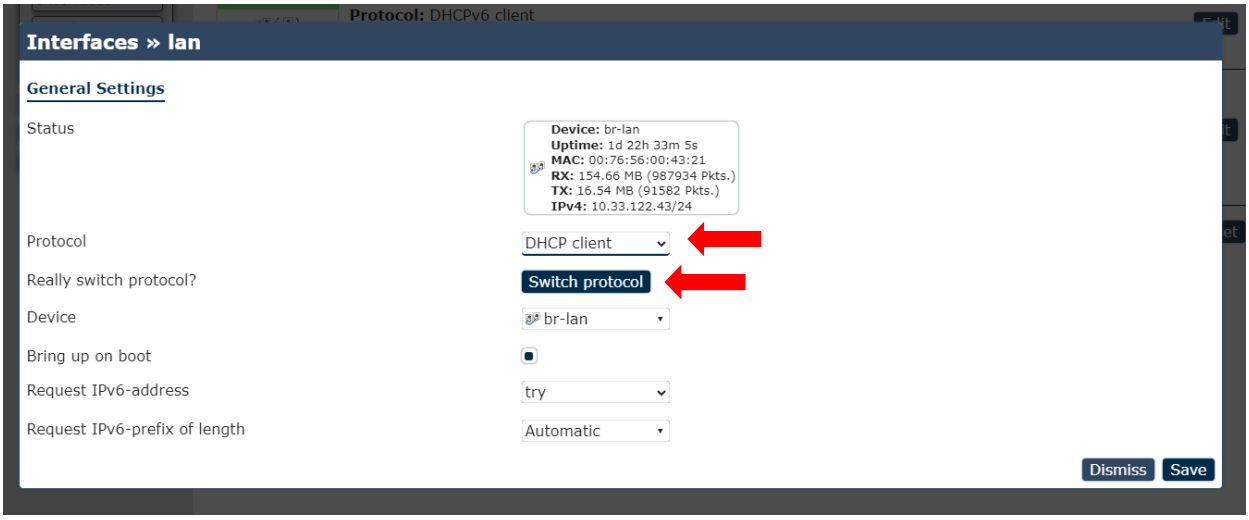
B. DHCP Mode

Obtain IP address via DHCP mode. setup the DNS and port

This allows the ATS 9820 PRO to obtain an IP Address automatically from user`s server connected toInternet. Recommended for non- advance users.
User can only revise the Host Name under DHCP mode. This is also the default setting for fast LAN connection solution.

As the IP from DHCP Service of user`s router will be changed by router. ATS 9820 PRO will remember last IP of ATS 9820 PRO assigned by user`s router in “Last DHCP state” for information

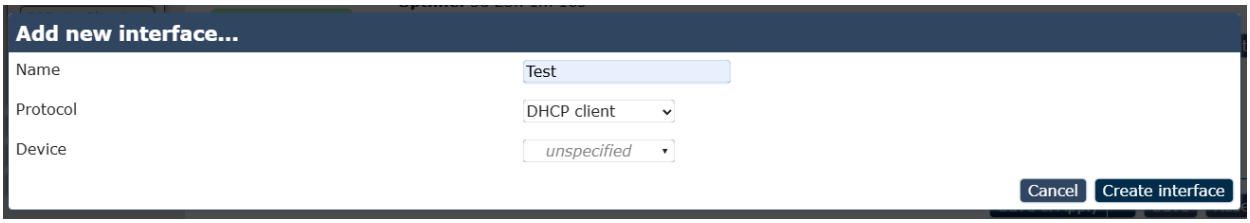
When you switch the protocol to “DHCP Client”, it will appears “ Really switch protocol? ” line, remember to click it.



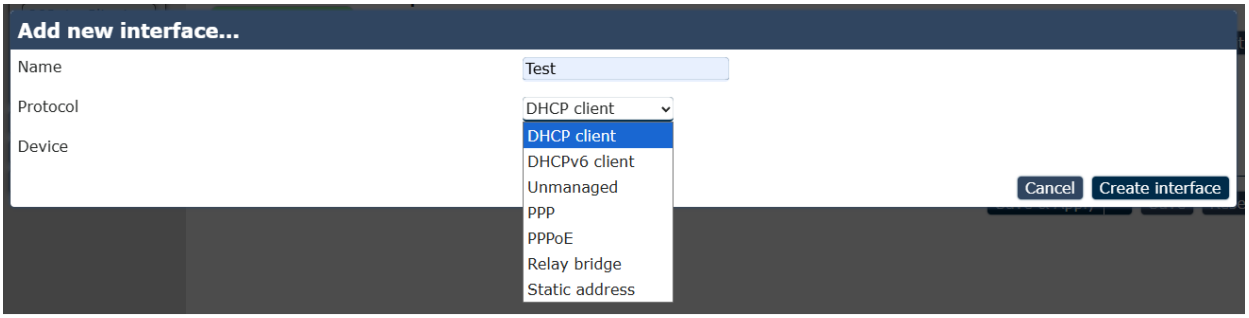
After click the “Switch protocol”, setting screen will show the new settings, remember to click save after you complete your settings.

C. Add new interface:

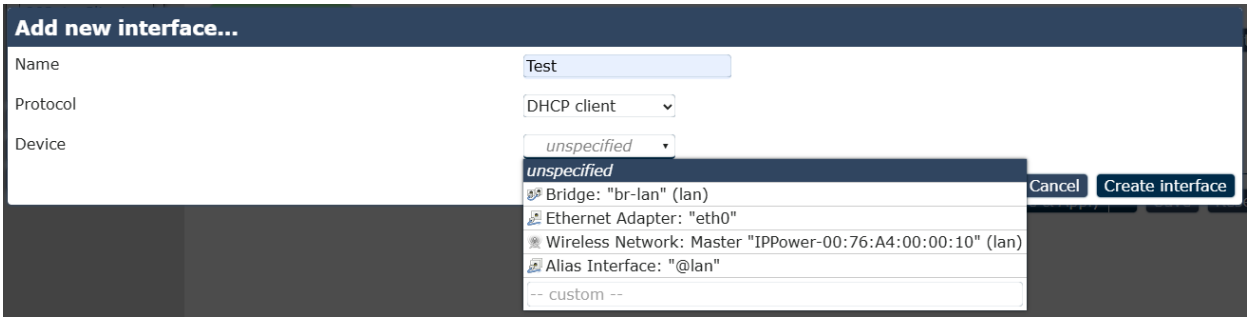
When you click “Add new interface”, the setting screen will appear.



Choose the internet protocol you wish to configure.

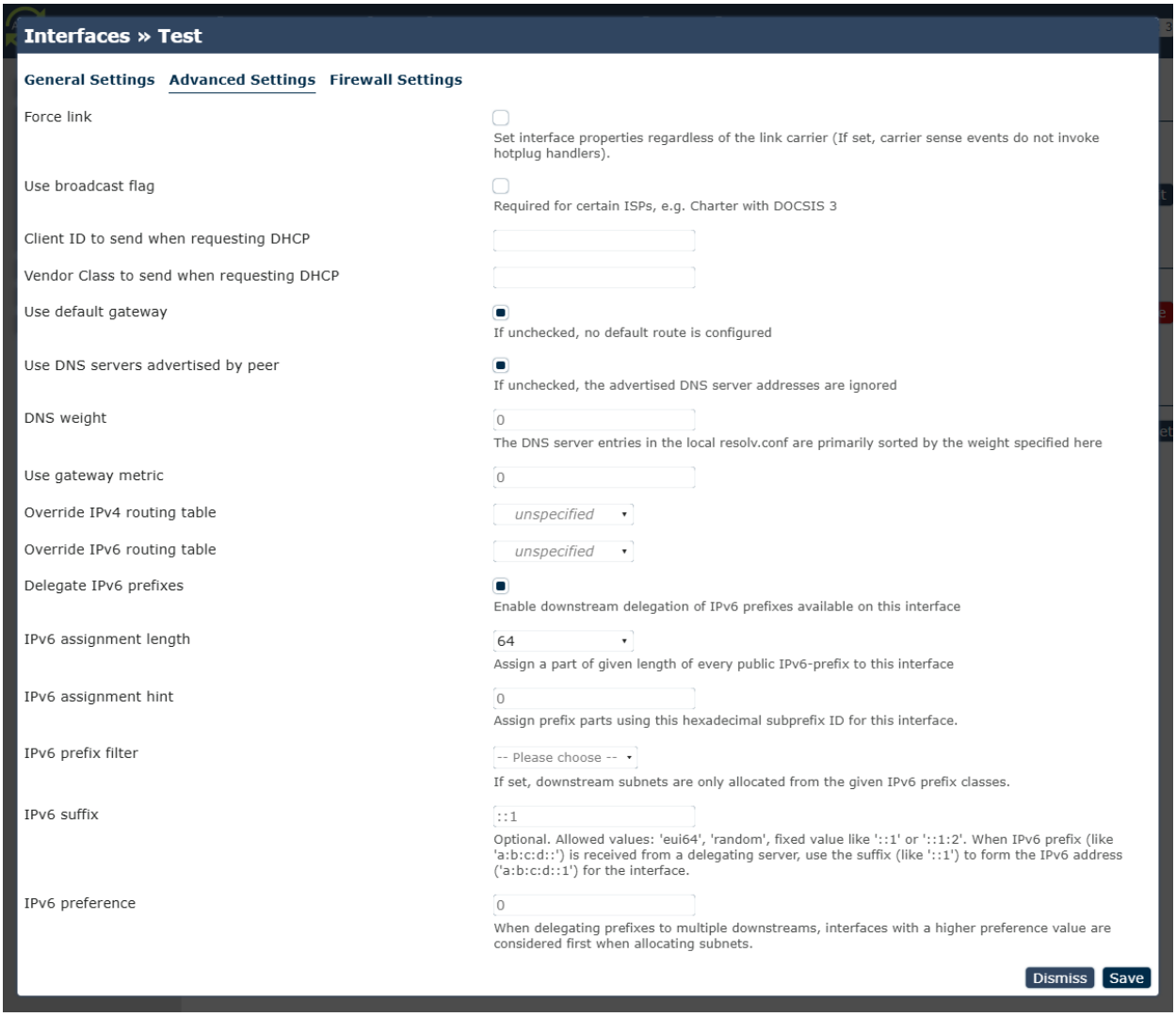


Choose the device(connection) you wish to configure.

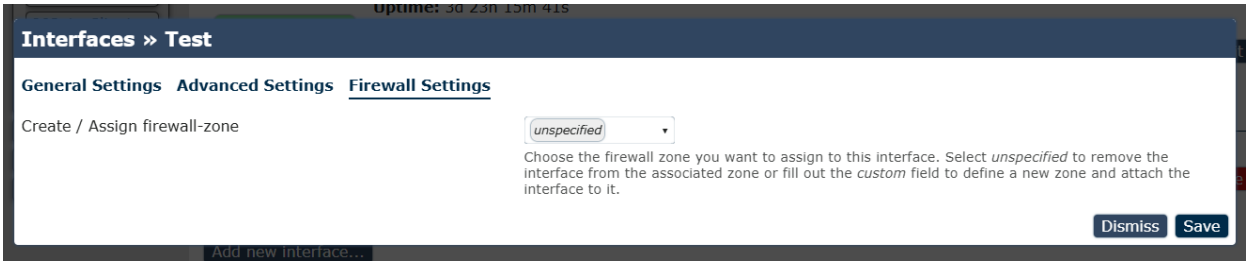


After you click the “create interface”, it will move to final setting step,
there are three settings that the user need to configure, depends on user needs to configure
Make sure to click the “**Save**” bottom after you finish the settings.

Advanced Settings:

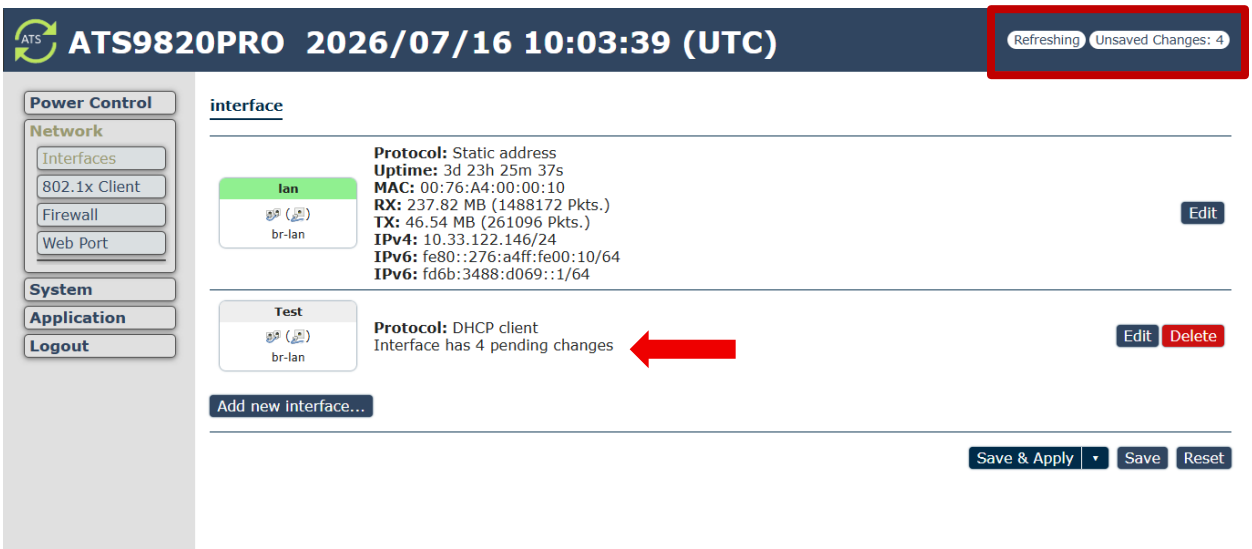


Firewall settings:

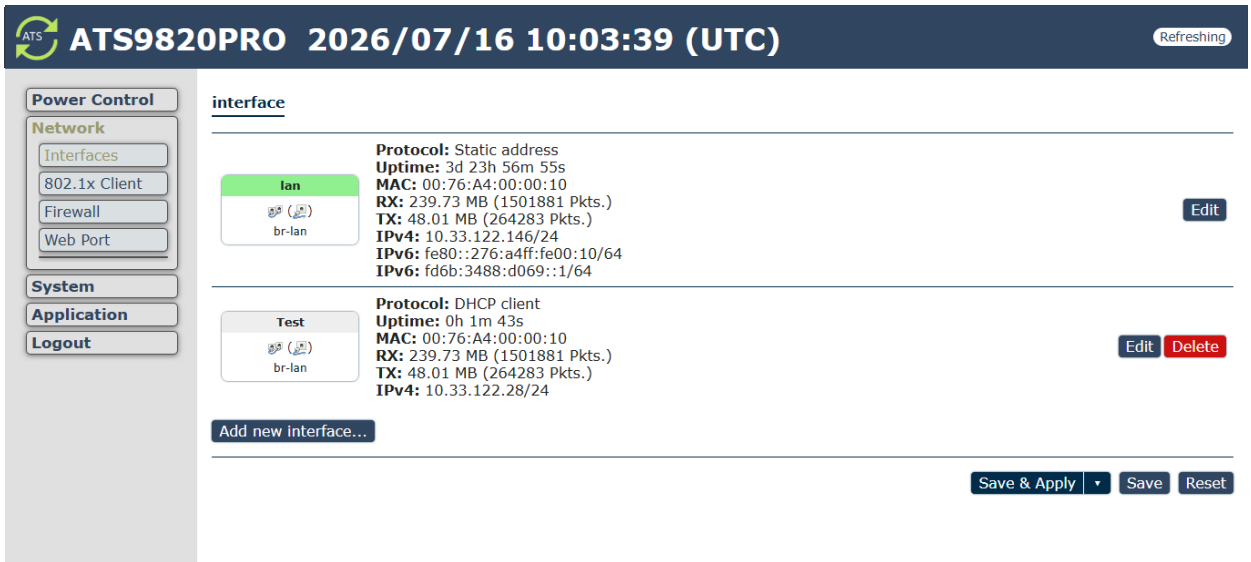


After you click the “save” bottom, the new interface will appears, but it doesn’t mean the settings is complete, You can see the “Unsaved Changes” in the top right, and the new interface display ”Interface has X pending changes ”, X represent how many settings you set in the interface.

To know how to change the settings, please refer to the **3.2 Change settings(P.12)**

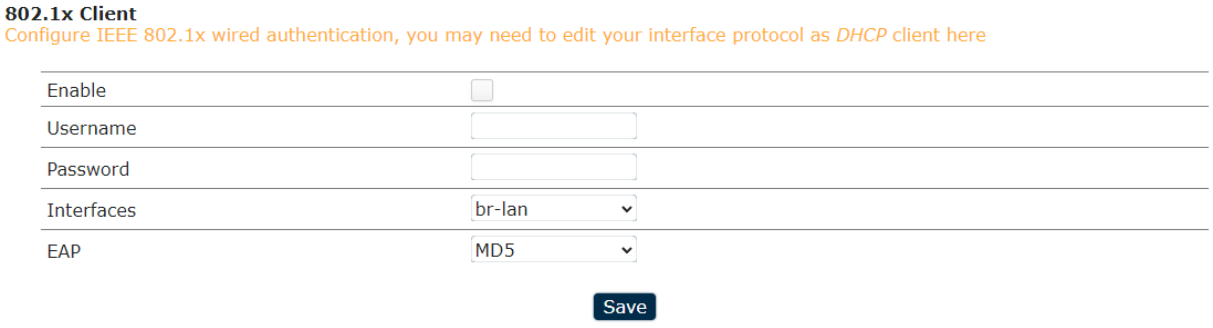


After you complete setting, you can see your new interface has establish. You can edit the setting or delete at any time.



4.4.2 802.1X Client

To configure IEEE 802.1X wired authentication, you may need to edit your interface protocol as DHCP client here.



Enable: If you want to enable it, click the icon, if don't, do not click it.

Username: Edit your username

Password: Edit your password

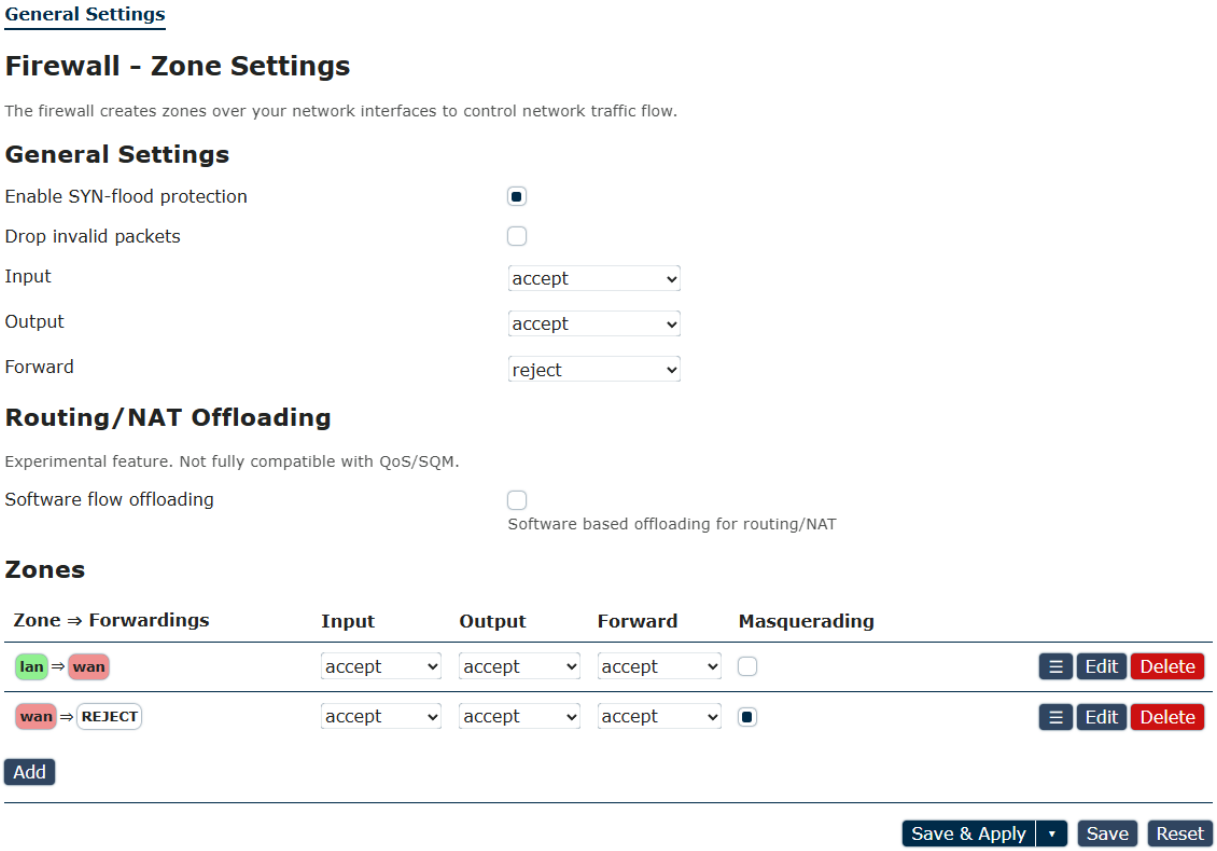
Interfaces: currently only provides "br-lan"

EAP: MD5, MSCHPV2

After you finish the setting, remember to click the "save" to save it.

4.4.3 Firewall

The firewall creates zones over your network interfaces to control network traffic low.



1. General Settings:

(1) Enable SYN-flood protection: Activate the SYN-Flood protection.

(2) Drop invalid packets: Enable or Disable

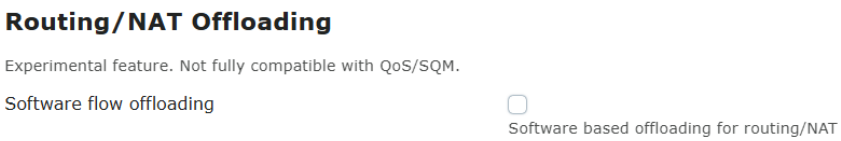
(3) Input: Accept, reject or drop

(4) Output: Accept, reject or drop

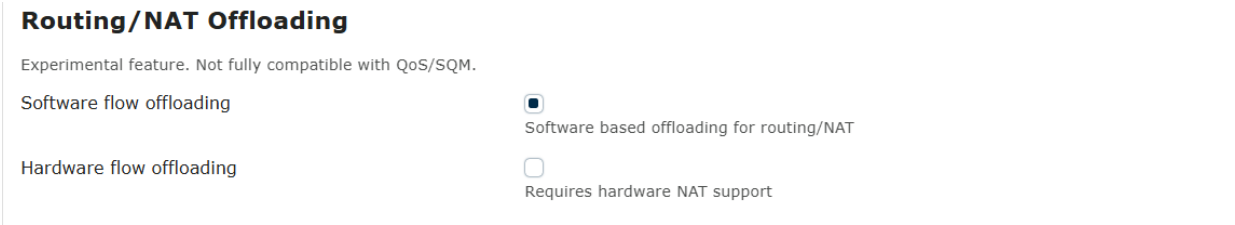
(5) Forward: Accept, reject or drop

2. Routing / NAT Offloading: (Working in progress)

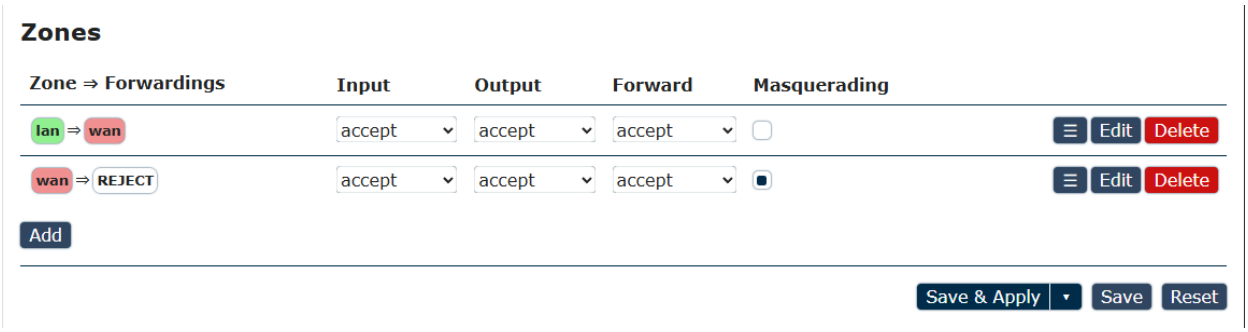
– Software flow offloading: Software based offloading for routing/NAT



Hardware flow offloading: The function appears after the user enable the ”Software flow offloading”.

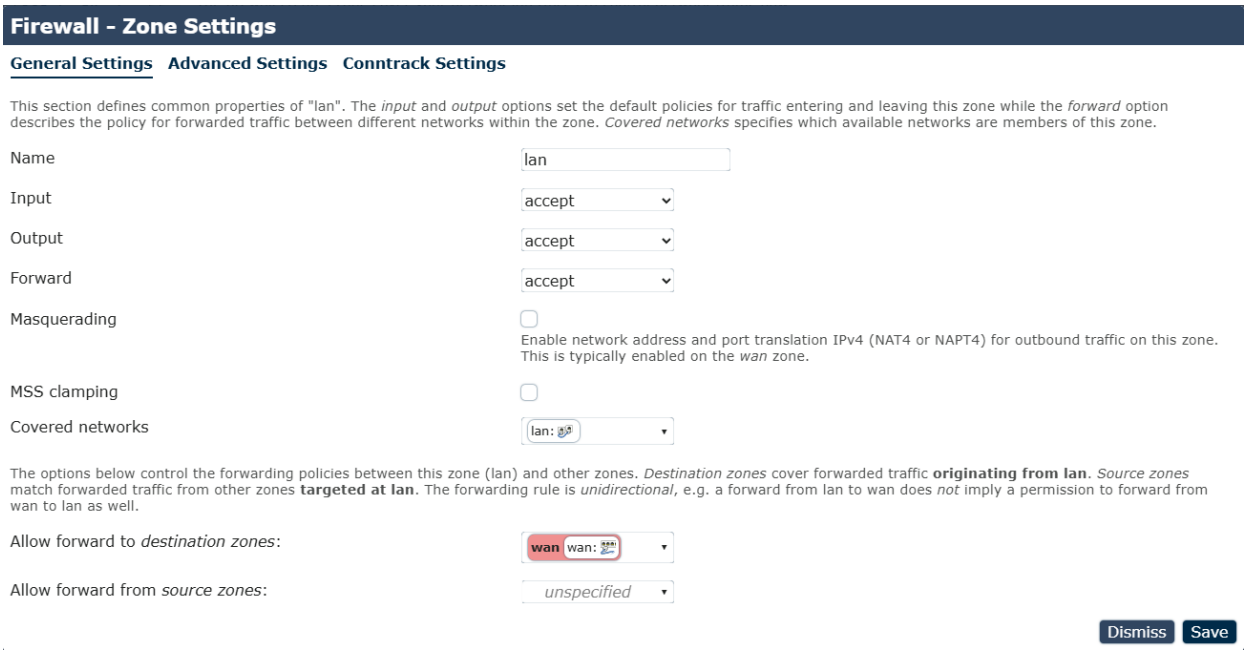


3. Zones



Edit or Add: When you “add” your zones or need “edit” the zones, the following settings will appears:
(1) General settings (2) Advanced Settings (3) Conntrack Settings

(1) General settings:



(2) Advance settings

Firewall - Zone Settings

General Settings | Advanced Settings | Conntrack Settings

The options below control the forwarding policies between this zone (lan) and other zones. *Destination zones* cover forwarded traffic **originating from lan**. *Source zones* match forwarded traffic from other zones **targeted at lan**. The forwarding rule is *unidirectional*, e.g. a forward from lan to wan does *not* imply a permission to forward from wan to lan as well.

Covered devices	*unspecified* ▾ Use this option to classify zone traffic by raw, non-*uci* managed network devices.
Covered subnets	+ Use this option to classify zone traffic by source or destination subnet instead of networks or devices.
IPv6 Masquerading	☐ Enable network address and port translation IPv6 (NAT6 or NAPT6) for outbound traffic on this zone.
Restrict to address family	IPv4 and IPv6
Restrict Masquerading to given source subnets	0.0.0.0/0 +
Restrict Masquerading to given destination subnets	0.0.0.0/0 +
Enable logging on this zone	☐

Dismiss Save

(3) Conntrack Settings

Firewall - Zone Settings

General Settings | Advanced Settings | Conntrack Settings

Allow "invalid" traffic	☐ Do not install extra rules to reject forwarded traffic with conntrack state *invalid*. This may be required for complex asymmetric route setups.
Automatic helper assignment	■ Automatically assign conntrack helpers based on traffic protocol and port

Dismiss Save

4.4.4 Webport

A lightweight single-threaded HTTP(S) server

General Settings:

Port

port setting

MAIN

General Settings

HTTP listeners (address:port)	0.0.0.0:80 - [::]:80 - + Bind to specific interface:port (by specifying interface address
HTTPS listener (address:port)	0.0.0.0:443 - [::]:443 - + Bind to specific interface:port (by specifying interface address
Redirect all HTTP to HTTPS	☐
HTTPS Certificate (DER or PEM format)	/etc/uhttpd.crt (1.31 KB)
HTTPS Private Key (DER or PEM format)	/etc/uhttpd.key (1.70 KB)
Remove old certificate and key	Remove old certificate and key generate a new self-signed certificate using the configuration shown below.
Remove configuration for certificate and key	Remove configuration for certificate and key This permanently deletes the cert, key, and configuration to use same.

Self-signed Certificate Parameters

Valid for # of Days	730
Length of key in bits	2048
Server Hostname	OpenWrt a.k.a CommonName
Organization	 If empty, a random/unique value is used in cert generation
Location	Unknown
State	Somewhere
Country	ZZ

Save & Apply | Save | Reset

For example:

Device's IP: 0.0.0.0, (ex: 192.168.1.xx or 10.33.122.xx)
port: 80(HTTP). 443(HTTPS) (the ports number depends on the router setting)

1. HTTP listeners (address: port): Bind to specific interface:port by specifying interface address.

   (1) Port section: "0.0.0.0" is your IP device, 80 is the port you type

   If fill 0.0.0.0 here, ATS 9820 PRO recognize the IP as the device IP address

   For example: if the IP address of the ATS 9820 PRO is 192.168.1.168:80

   User can fill: 0.0.0.0:80 which also mean 192.168.1.168:80

   User can also fill 192.168.1.168:80 here.

   (2) This section shows the format of IPV6, as the (1) shows how IP address works, user have to follow the format to type new IP address like: [::]:80 or [::]:443 …etc

   (3) Type new port : Add new port for IPV4 or IPV6 section, then click the **dark blue"+"** bottom, and click save & apply, settings complete.

2. HTTPS listeners (address: port): Bind to specific interface:port(by specifying interface address. Same procedure as "1. HTTP listeners"

3. Redirect all HTTP to HTTPS: User can enable this section and which will Direct HTTPS only, and disable HTTP.

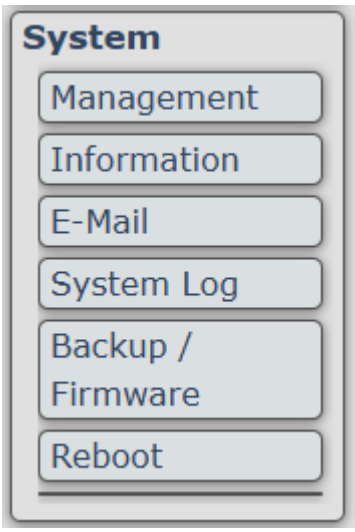
4. HTTPS Certificate (DER or PEM format): Upload certificate Der or PEM file.

5. HTTPS Private Key (DER or PEM format): Upload Private key DER or PEM file.

6. Remove old certificate and key: Generate a new self-signed certificate using the configuration shown below.

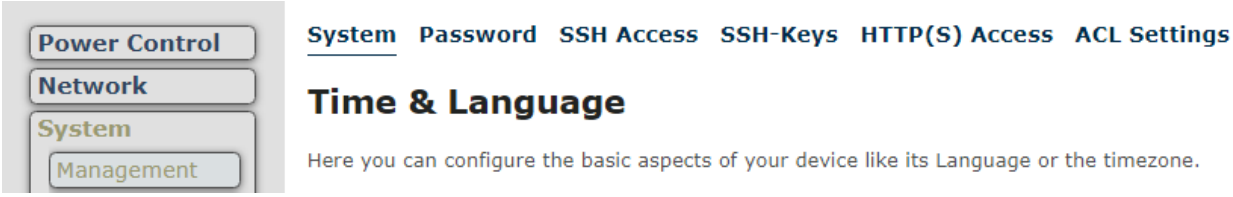
7. Remove configuration for certificate and key: This permanently deletes the cert, key, and configuration to use same.

4.5 System

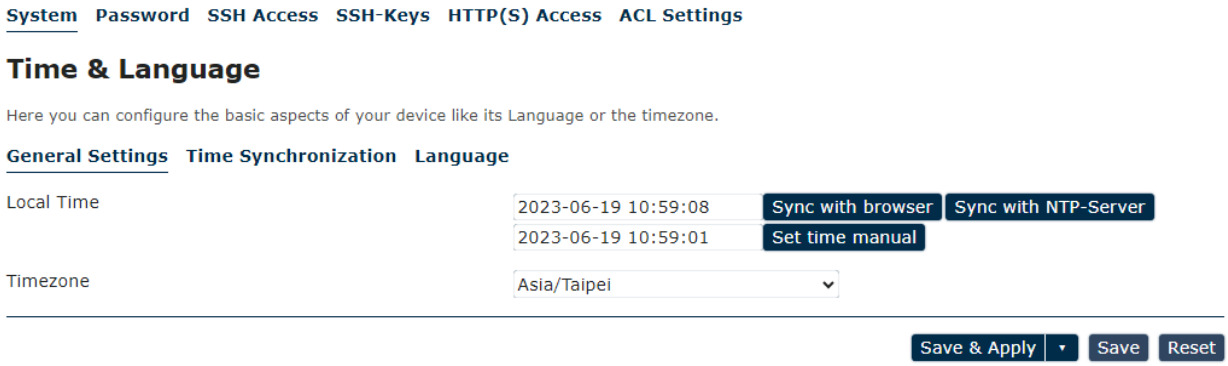


4.5.1 Management

In this section there are 6 settings: System, Password, SSH Access, SSH-Keys, HTTP(S) Access, ACL settings



System:



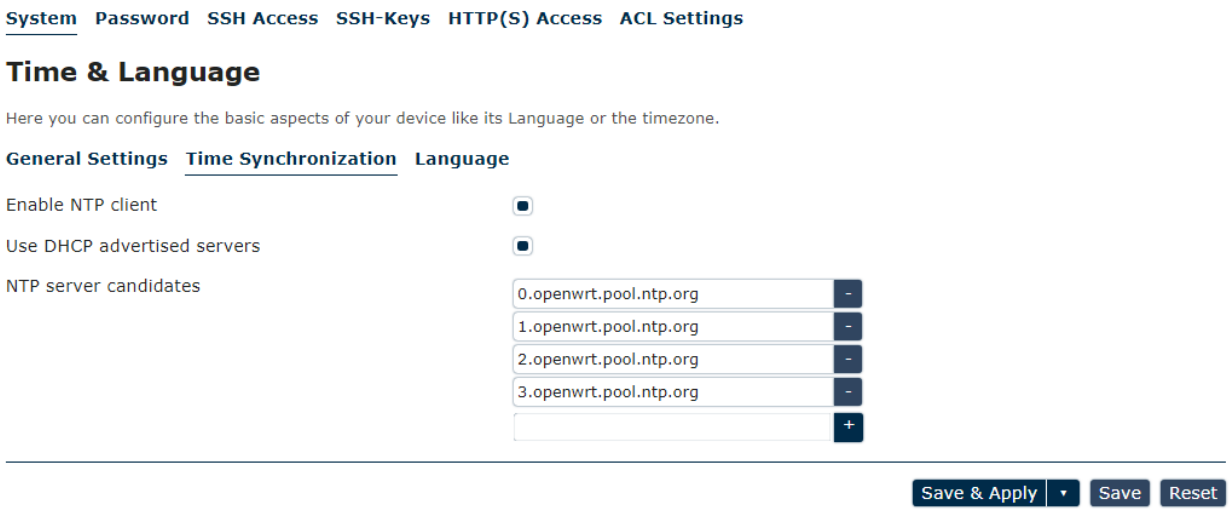
(1) General setting:

1-1 Local Time: Sync the local time through browser, NTP-server or manual setting.

1-2 Timezone: Change your timezone setting.

(2) Time Synchronization:

Enable NTP client and DHCP function, and set your NTP server candidate.

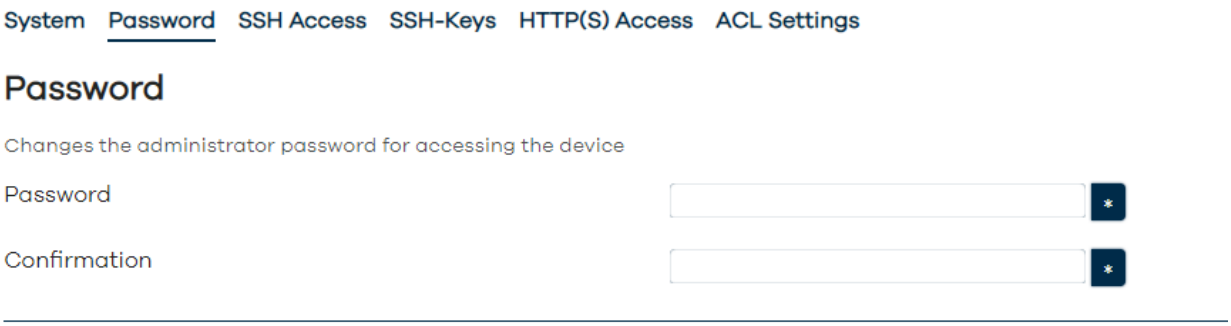


(3) Language

There are 3 language option of ATS 9820 PRO. The default langrage is English.
The other two languages are “Chinese(Simplified)” and “ Taiwanese(Traditional Chinese)“ .

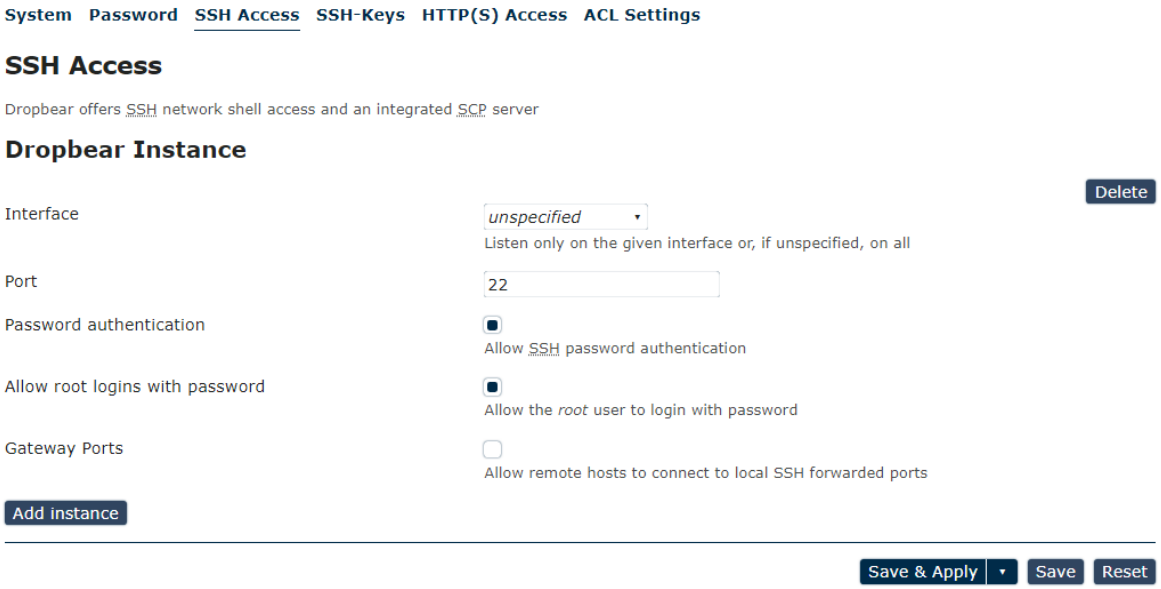
System Password:

Change the administrator password for accessing the device.



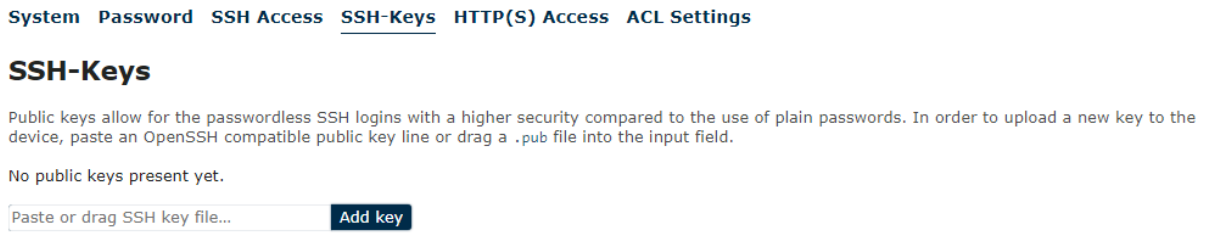
SSH Access:

Dropbear offers SSH network shell access and an integrated SCP server.

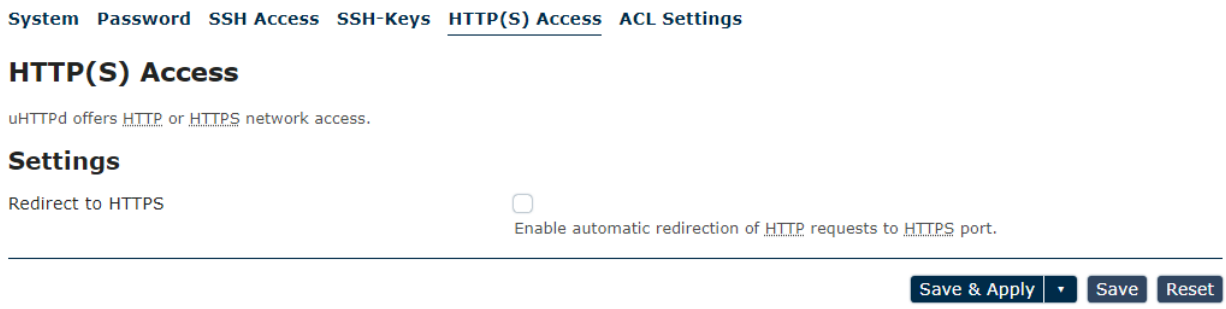


SSH-Keys:

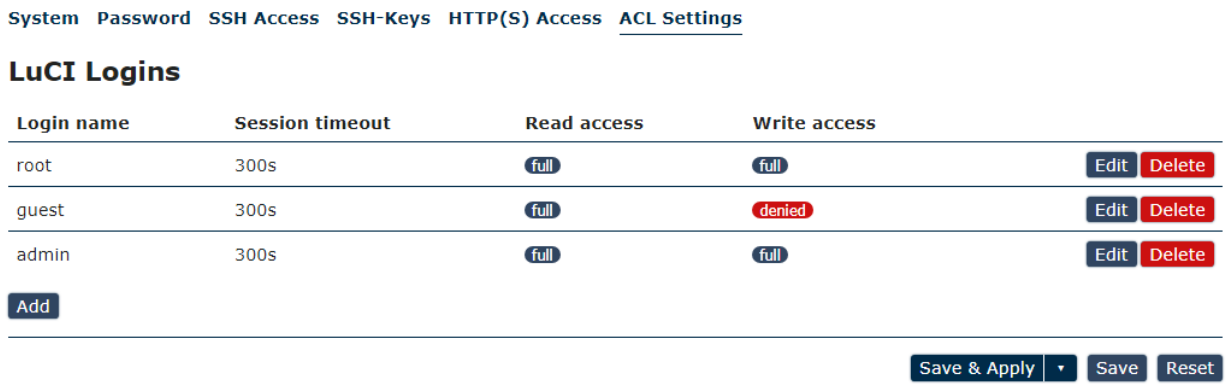
Public keys allow for the passwordless SSH logins with a higher security compared to use of plain passwords. In order to upload a new key to the device, paste an OpenSSH compatible public key line or drag a .pub file into the input field.



HTTP(S) Access:
uHTTPd offers HTTP or HTTPS network access



ACL Settings:
Manage and create the list of account for different settings and authorized purpose.



For example:
1. root: Can normally operate all the function
2. guest: The authorized only for read access, can't control the device.
3. admin: For the user who used to operate old CGI http command from other IP Power devices. The user still can use the other IP Power http command through "admin" user.

4.5.2 Information

User can get the system information here.

Status

System

Hostname	ATS9820
Firmware Version	[redacted]
Hardware Version	[redacted]
Hardware Version(H21)	[redacted]
UBoot Version	4.4.2.1
Web Port	0.0.0.0:80,[::]:80
Local Time	2026-07-31 06:40:37
Uptime	2h 40m 27s
mDNS	ats9820.local, ippowera8.local

Network

IPv4 Upstream

Protocol: Static address
Address: 10.33.122.149/24
Gateway: 10.33.122.1
DNS 1: 8.8.8.8
DNS 2: 1.1.1.1
Connected: 2h 8m 46s

Device: Bridge: "br-lan"
MAC address: 00:76:A8:00:02:A8

Active Connections	55 / 8192 (0%)

4.5.3 Email

Email Configuration

The SMTP function offers mail agent to send event notification to mail receiver

Server:	smtp.gmail.com
Form:	aviosys1@gmail.com
To:	aviosys101@gmail.com
Port:	587
tls	☐
Account:	aviosys1
Password:	••••••••

Save & Apply Verify

➢ Email Setting :

User can get e-mail advice as one of the following situation happen:

- Receive E-mail with IP information & MAC Address as ATS 9820 PRO device boot up.
- Receive E-mail as ON/OFF status change in each output.

Notice : To send out the e-mail successfully , please double check the setting of user DNS . (Network → Interface → DNS setting

The ATS 9820 PRO allows user to send from public e-mail account , such as@gmail or @hotmail or @yahoo.com

- **Server (SMTP)**: This is the mail server of sender
- **From :** Mail sender address to send the E-Mail out. Ex.: ATS 9820 PRO@gmail.com

If user select @gmail or @hotmail account as SMTP Server , ATS 9820 PRO will fill the SSL & Portautomatically

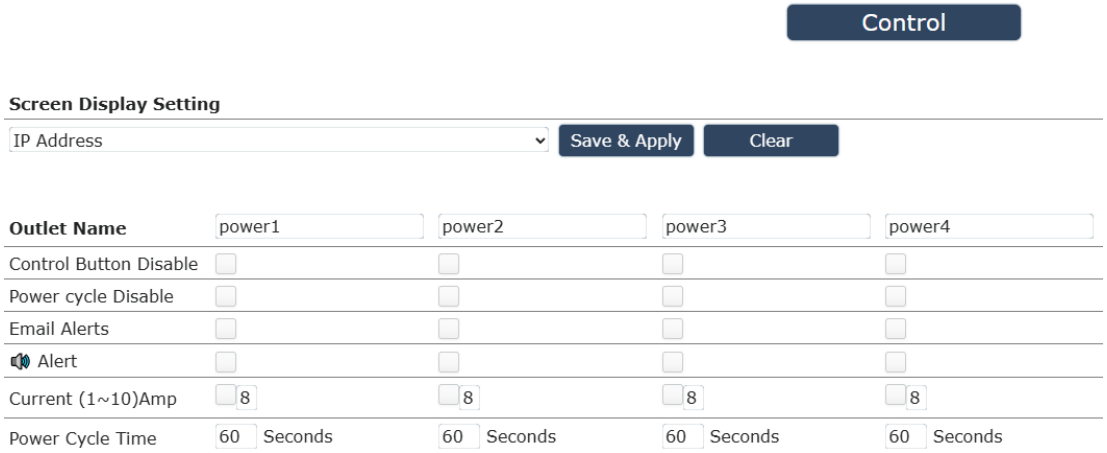
- **To** : Mail receiver address to get the E-Mail in. Ex.: 9223@hotmail.com
- **Server :** Please refer to P.65 Server(SMTP)
- **Port :** This is the port of SMTP Server. Most common port to send out e-mail is port 25
- **TLS :** It depends on the inquire of the email server to enable or disable this inquire .As use Gmail account , please enable this function.
- **Account** : Login for the e-mail address . Ex: ATS 9820 PRO@gmail.com
- **Password**: Password for the e-mail address. EX : 12345678
- **Save & Apply**: To store the setting in this section.
- **Verify:** A send e-mail test to make sure the e-mail works.

For example :

Get Email alarm as outlet changed :

User can enable the **Email Alerts** in the advance setting section :

Power Control → Control →Advanced setting



* Can't send to Gmail

Due to the Google update it's policy in recent years, the user have to activate the App password in 2 Step Verification to connect with gmail.

Please refer to the tutorial below:

Aviosys mail setting video tutorial link, start gmail in 0:58:
https://www.youtube.com/watch?v=xSjtSuQz2Rg

Move to your (1) Google accounts → (2) login→ (3) manage your google account → (4) Security → (5) 2 Step Verification → (6) find App password.

App password will be your setting password for gmail setting, please save your password when it establish.

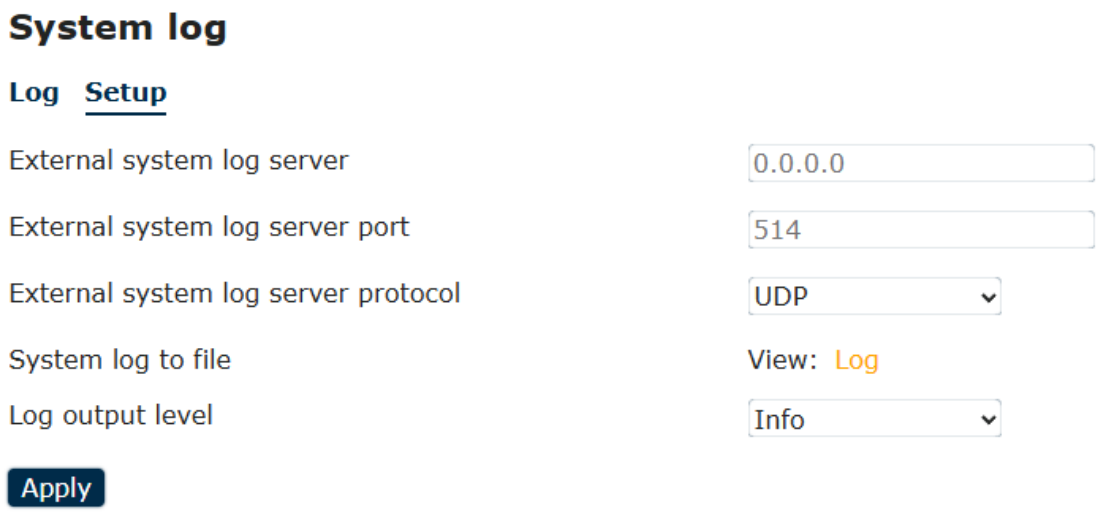
If you can't find the App password in 2 Step Verification,
click the link below and click → **"Create and manage your app passwords"** :
https://support.google.com/accounts/answer/185833?hl=zh-Hant

4.5.4 System Log

In this section, user can get the ATS 9820 PRO system operation information and send the information toassign Server IP address (not support name) . **The system information will be deleted after ATS 9820 PRO device power reboot.**

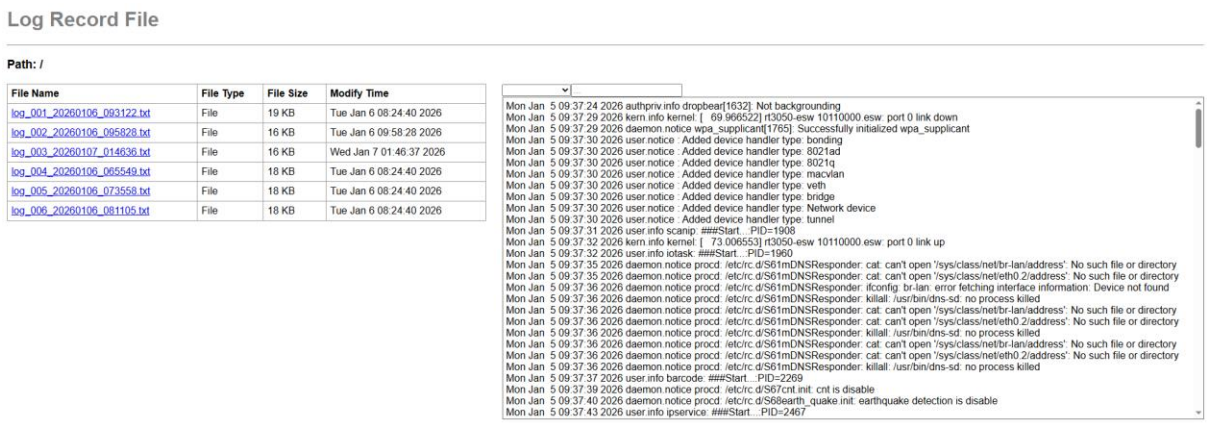
Log:

Setup:
Setup the IP & port to transfer the log list to external server.



1. **External system log server: Set the IP device that transfer the log list to another server.**
2. **External system log sever port: Set the port of the external server.**
3. **External system log server protocol : select UDP or TCP mode**

System log to file: link to "Log" (Click it, and it will move to Log Record File)



4. **Log output level : select level – Debug , Info , Notice , Warning , Error , Critical , Alert, Emergency**

Please click " Apply " after you change the settings.

4.5.5 Backup / Flash firmware

Flash Operation:

Please only use the file supply from Aviosys distributor or Aviosys.

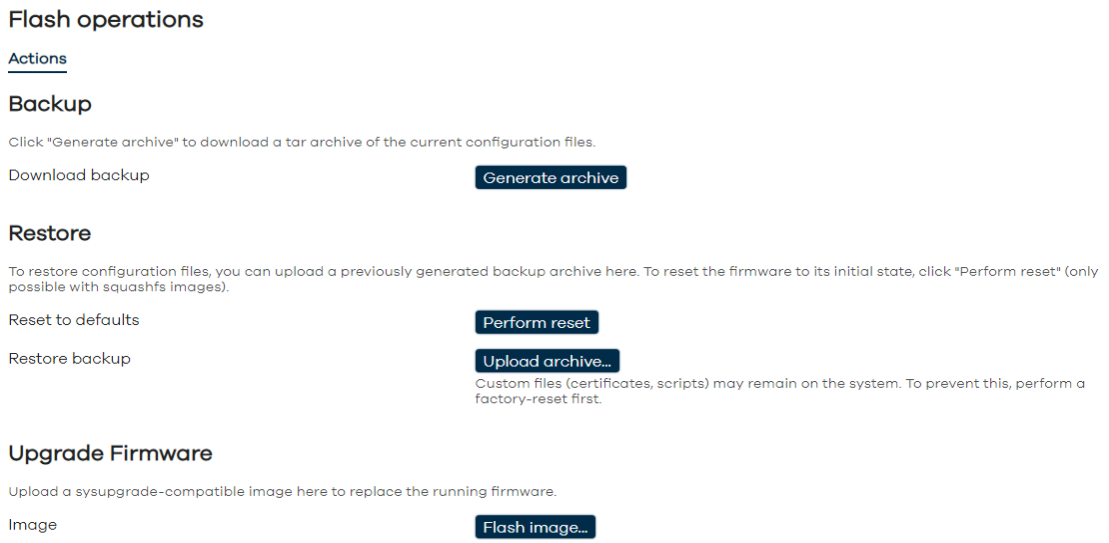
There are three sections: Backup, Restore and Upgrade Firmware

The firmware update function only support in LAN connection.
Before update, please DO READ THE HI-LITE MESSAGE BLOW:

Backup: To download a tar archive of the current configuration files.

Restore(Factory reset): To reset the default setting or restore the configuration files.

Upgrade firmware: Upload and upgrade the latest firmware to replace current firmware.
It takes about 1 minute to upload upgrade flash and be patient please. Caution! A corrupted image will hang up the system. And the update will reset the device setting after its done.
* Please backup your setting if you want to restore it after the updating the firmware.



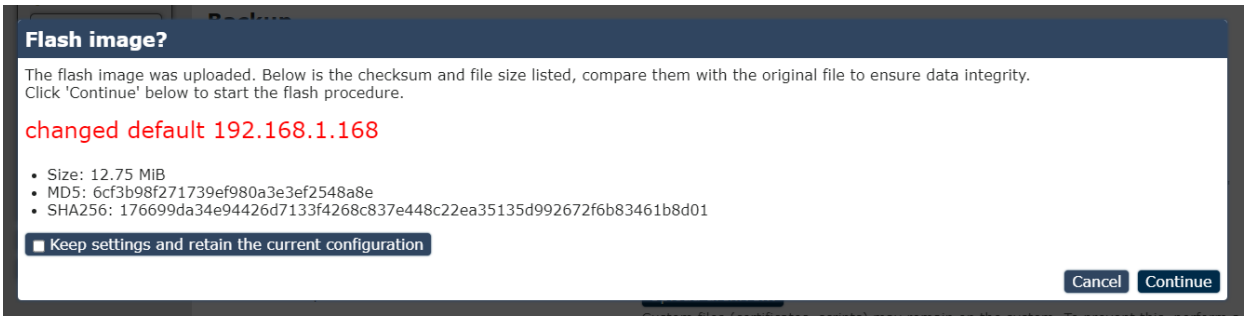
To update the ATS 9820 PRO, please follow the instruction below to prevent anything happens like **update incomplete** or **hardware disable** which may be caused by wrongdoing of updating:

1) Turn off all chat programs including (Skype, FB. QQ, AIM,Teams,Line, Yahoo messenger ….etc.)
2) Check to make sure that all devices are turned on safely and powered
3) While updating do not turn off the power
4) Make sure that the cable is connected firmly
5) Do not interrupt the update process, the update must be completely finished .
6) Turn off, any Spyware or antivirus software which may conflict with the update.
7) Update firmware in the Local Area Network (LAN)
8) Please change the PORT as 80
9) **Reboot and Do the Hardware Reset** (keep pressing RESET button for 7 secs) after update successfully.
10) The update will turn back to the default settings, ATS 9820 PRO's devices IP address will turn back to
IP: 192.168.1.168. Please open your IPEdit and Rescan it to find your device, you can check your device through MAC.
11) **Clear the Cookies and Cache from the temporary file of PC and browser** to avoid get the old webpage.

Note: **Step 11 is vital procedure,** please remember to do this after you update your device!!
Reminder: When you update the firmware, the final procedure screen will display an icon with the

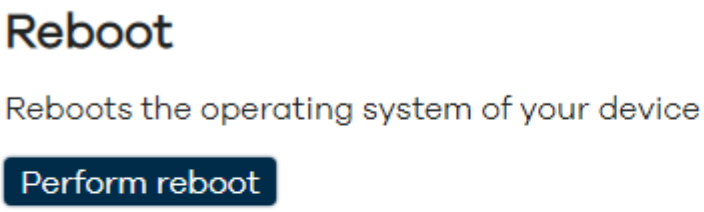
message "**Keep settings and retain the current configuration**." Please refrain from clicking it if you wish to complete your firmware upgrade.

* If you wish to save the settings to your firmware, click on the "**Keep settings and retain the current configuration**" icon. This action will save your current settings and upgrade your device's firmware.

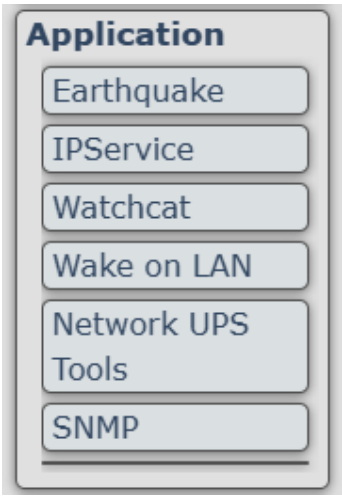


4.5.6 Reboot

Reboots the operating system of your device.



4.6 Application



4.6.1 Earthquake

When an earthquake is detected, the system automatically executes predefined emergency response strategies—such as shutting down, activating, or rebooting designated power sources—to minimize potential damage. Users can also customize device actions and location-based settings according to their specific environment. It also supports the Earthquake Early Warning (EEW) for power control.

* **The Earthquake Function** and **Earthquake Early Warning (EEW) are subject to regional availability restrictions**. If you have any questions or require further information about the earthquake-related functions, please contact us.

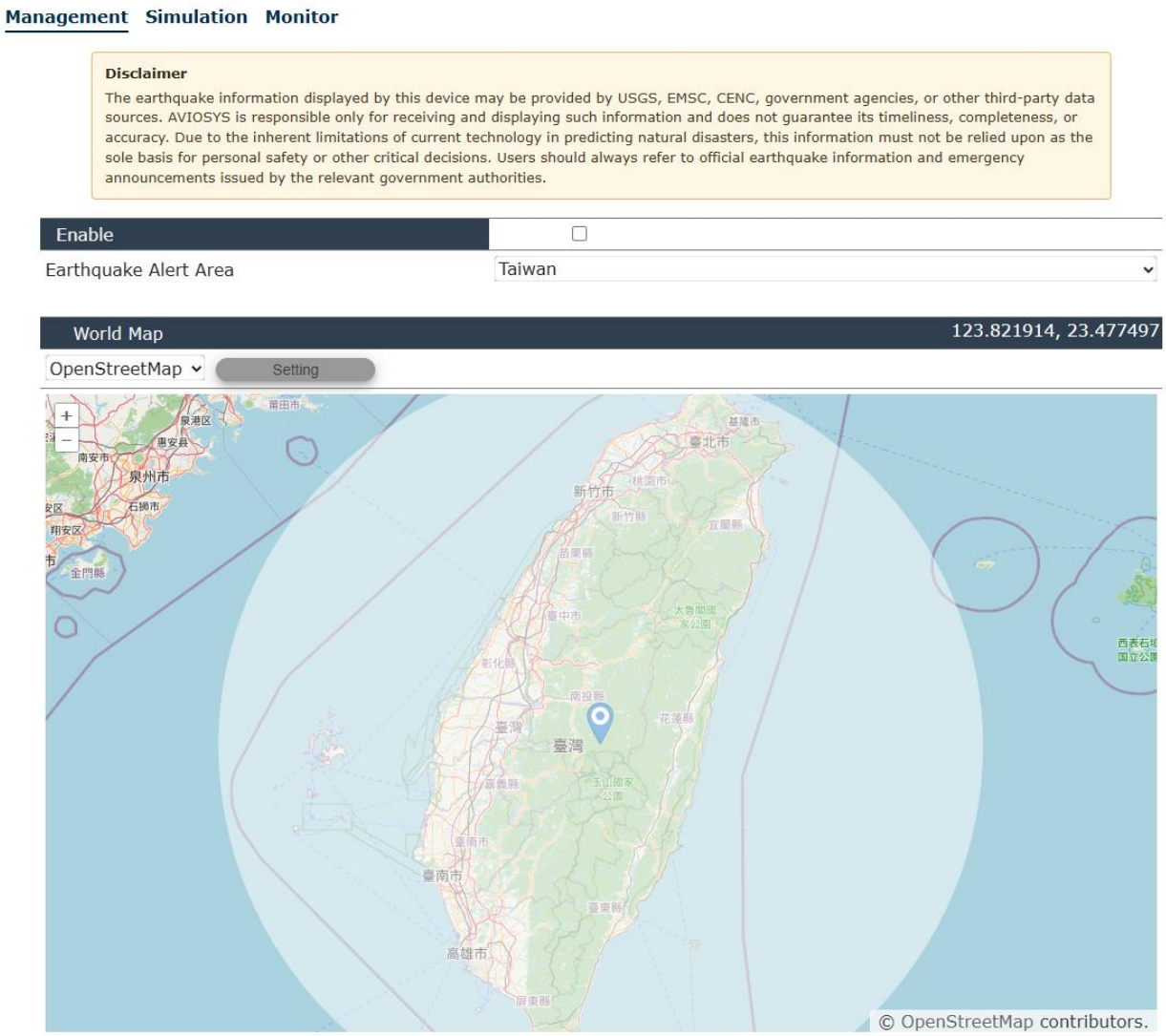
Before you use this function, please read the Disclaimer below:

Disclaimer:

The earthquake information displayed by this device may be provided by USGS, EMSC, CENC, government agencies, or other third-party data sources. AVIOSYS is responsible only for receiving and displaying such information and does not guarantee its timeliness, completeness, or accuracy. Due to the inherent limitations of current technology in predicting natural disasters, this information must not be relied upon as the sole basis for personal safety or other critical decisions. Users should always refer to official earthquake information and emergency announcements issued by the relevant government authorities.

The first webpage of Earthquake function:

There are three configurable settings in the Earthquake section:
1. Management 2. Simulation 3. Monitor



(1) Management:

Management **Simulation** **Monitor**

Enable	☐
Earthquake Alert Area	Taiwan

World Map 120.163773, 23.243702

OpenStreetMap Setting

Station Location & Earthquake Alarm Settings

Longitude:	120.862140	
Latitude:	23.751020	
Epicentral Distance	200	km
AND		
Magnitude	≥ 4.5	
AND		
Intensity	≥ 4级	

Deduplicate Settings

Identified distance for the same earthquake	50	km
Identification time of the same earthquake	300	seconds

Notification & Action Settings

Beep Alarm	Disable	
Email	☐	Confirmation email set up?
Action	☐	Port1 Off / Port2 Off / Port3 Off / Port4 Off / None
Multi Control ?	☐	Rule1:
Multi Control(CNT)	☐	Rule1:

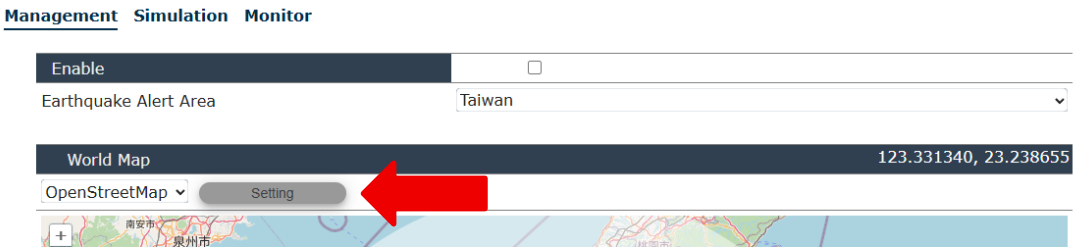
Advance Settings

Cancellation Action	☐	Port1 Off / Port2 Off / Port3 Off / Port4 Off / None
Multi Control	☐	Rule1:
Multi Control(CNT)	☐	Rule1:

Status

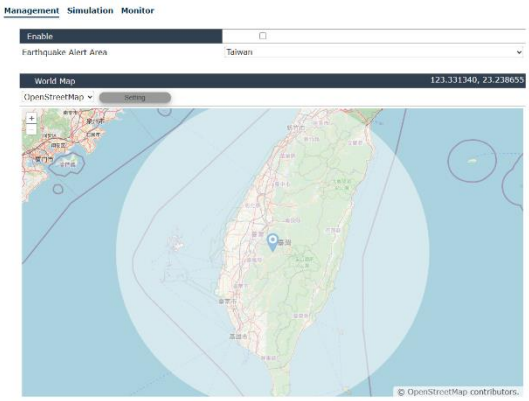
Save & Apply

(1-1) World map

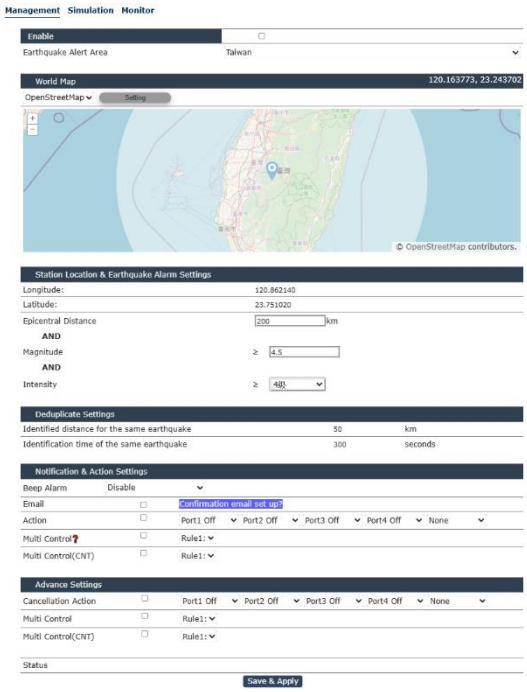


When you click “settings”, the settings option will expand.

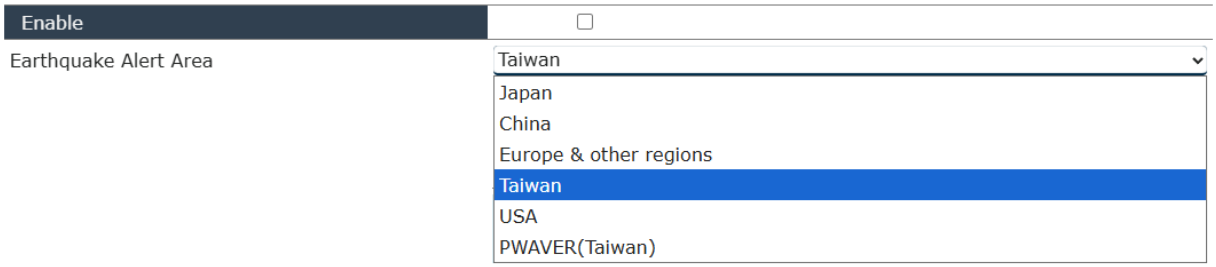
Before:



After:



(1-2) Enable



(1-3) Station Location & Earthquake Alarm Settings

Station Location & Earthquake Alarm Settings		
Longitude:	120.7	
Latitude:	23.5	
Epicentral Distance	200	km
AND		
Magnitude	≥	4.5
AND		
Intensity	≥	4级

(1-4) Deduplicate Settings

Deduplicate Settings		
Identified distance for the same earthquake	50	km
Identification time of the same earthquake	300	seconds

(1-5) Notification & Action Settings

Notification & Action Settings		
Beep Alarm	☐	Duration 10 seconds
Email	☐	Confirmation email set up?
Action	☐	Port1 Cycle Port2 Off Port3 Off Port4 Off 3 seconds On
Multi Control❓	☐	Rule1:
Multi Control(CNT)	☐	Rule1:

Action

(1-6) Advance Settings

Advance Settings		
Cancellation Action	☐	Port1 Cycle Port2 Off Port3 Off Port4 Off 3 seconds On
Multi Control	☐	Rule1:
Multi Control(CNT)	☐	Rule1:

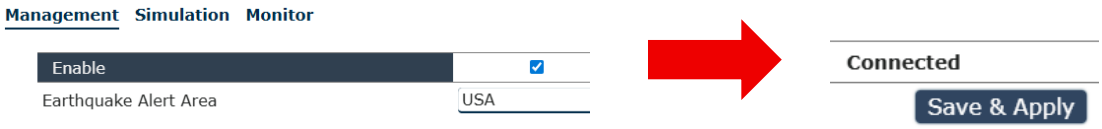
Action

(1-7) Status

Status

Save & Apply

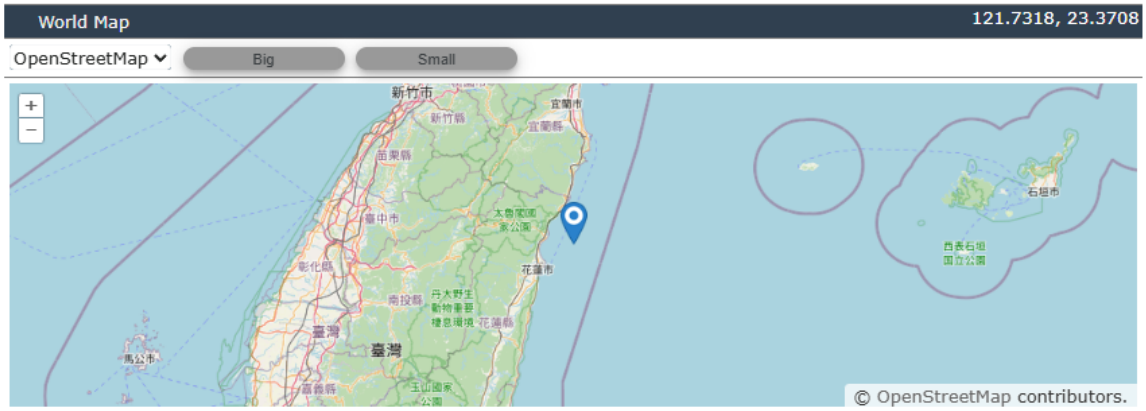
When you click the “Enable” to activate the Earthquake function, the status will display “Connected”



(2) Simulation

This function allows users to simulate an earthquake by manually selecting a location. In Event Settings, users can manually configure the earthquake magnitude, event name, location, and other related parameters.

The Earthquake Display settings are based on configurations previously defined in other ATS 9820 PRO functions. To change these settings, please edit them on the corresponding function pages.



Earthquake Alert Area: Taiwan

Event Setting	
Name:	台灣地震模擬
Time:	GetTime + 300 Sec 2025-02-26 08:33:33 Check
Location:	台灣花蓮縣附近海域
Magnitude:	4.9
Maximum Intensity	3级
Depth:	20 km
Longitude:	121.79
Latitude:	24.09

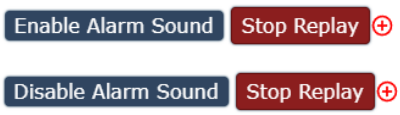
Save Execution

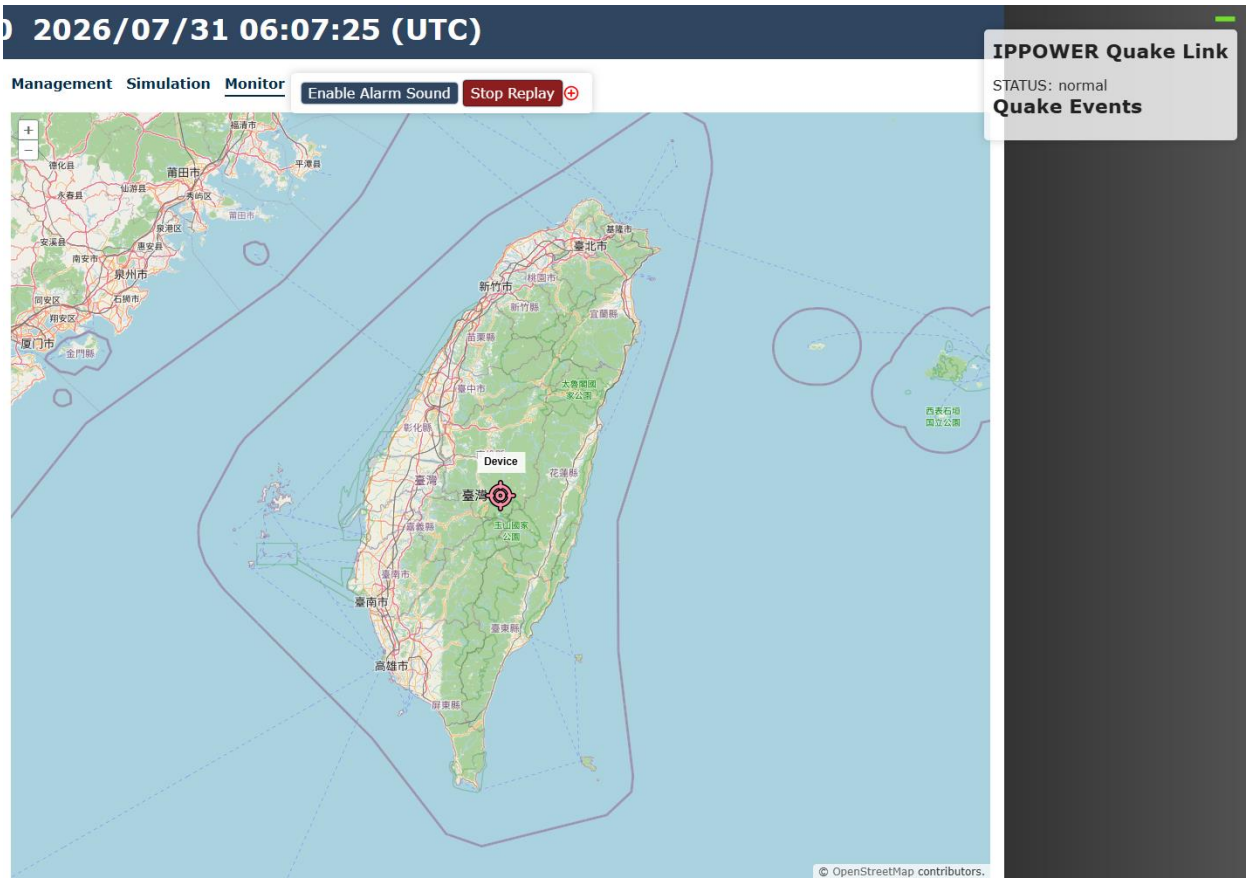
Earthquake Display	
Epicentral Distance	200km
Magnitude	≥ 4.5
Intensity	≥ 4
Identified distance for the same earthquake	50km
Identification time of the same earthquake	300seconds
Beep Alarm	Disable
Email	Disable
Action	Disable
Multi Control	Disable
Multi Control(CNT)	Disable
Cancellation Action	Disable
Multi Control	Disable
Multi Control(CNT)	Disable

(3) Monitor

Detect the recent earthquake event of Earthquake.

Click the button on the “Enable Alarm Sound” to enable the alarm sound and start earthquake monitoring. To disable it, click the button “Disable Alarm Sound”.





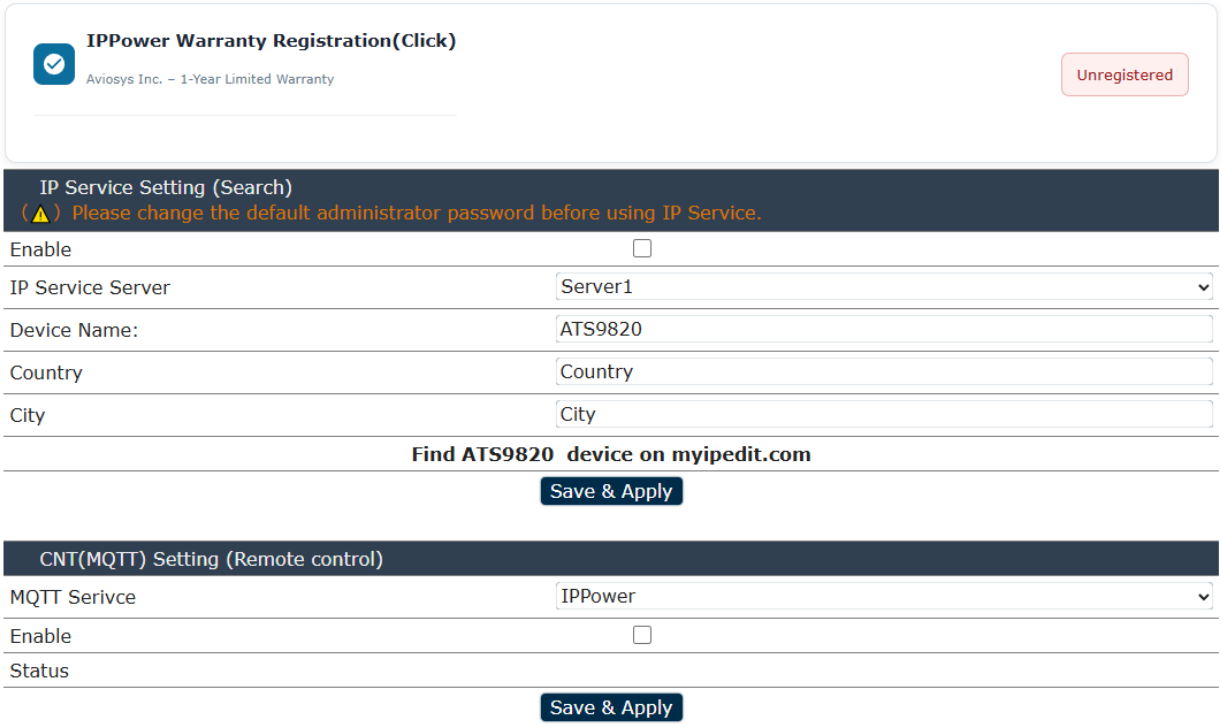
4.6.2 IP Service

In this section, user can setup :

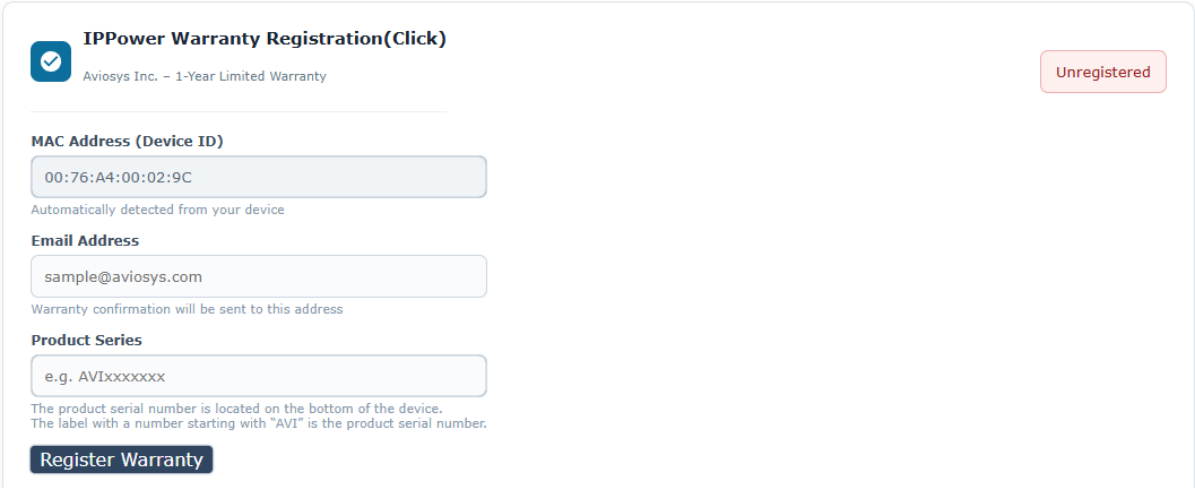
A. Warranty Registration

B. IP Server setting(Search)

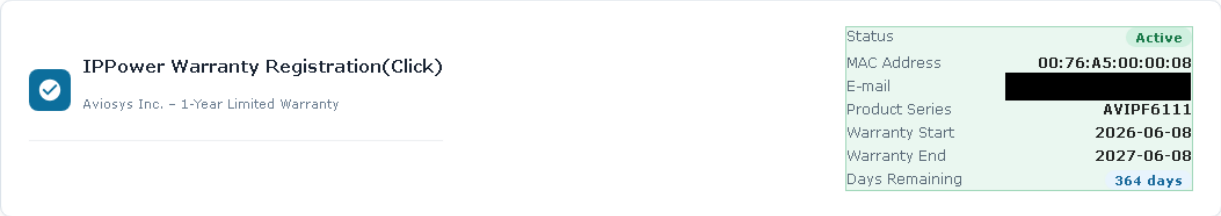
C. CNT(MQTT) Setting(Remote Control)



IP Power Warranty Registration:
Follow the instruction on the webpage and register your ATS 9820 PRO online.



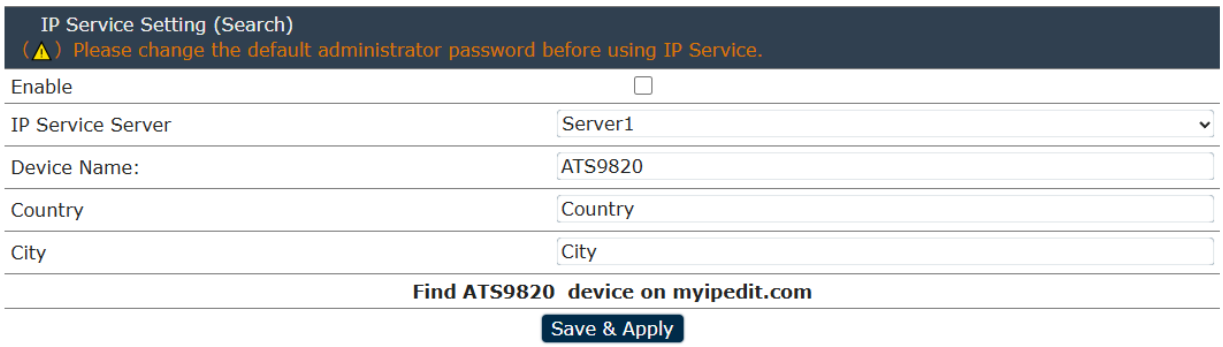
If the warranty registration is successful, the screen is shown as below:



A. IP Service Setting (Search)

The IP SERVICE allow ATS 9820 PRO to be accessed easily on the internet by our IP Power Center or IPEDIT. With this feature anyone can find its device with no problems.

IP Service Server: Allows user can find user of ATS 9820 PRO on the internet without having to rememberlong IP Addresses. Instead user can just remember the name of user device.

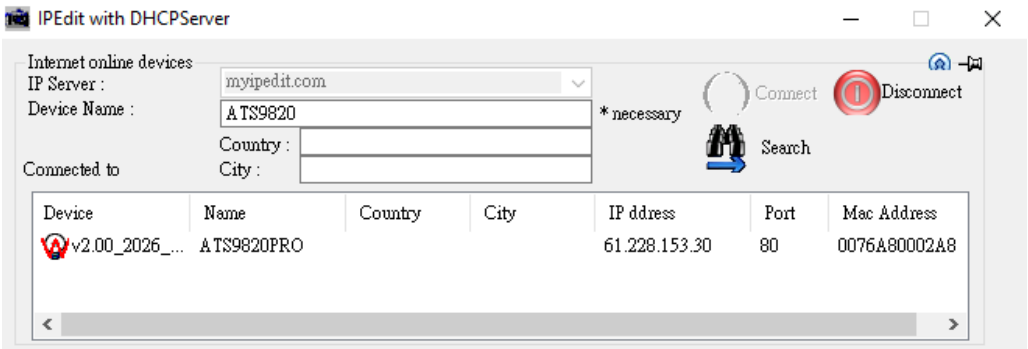


- Enable : Enable or Disable this function by clicking the small box.
- IP Service Server : Custom – the server setting by yourself
  Server 1- the server from our company
- Device name, Country & City:

User can search the ATS 9820 PRO by Device name, Country or City.

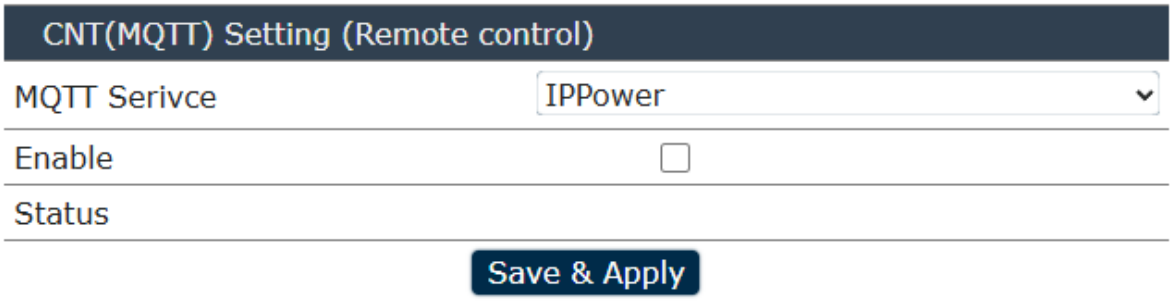
This allows the device to be accessed easily on the Internet, user no longer have to Port Forwarding, user device to be able to use it. Only some devices are CNT compatible.

Please refer page #20 for the function of IP Server

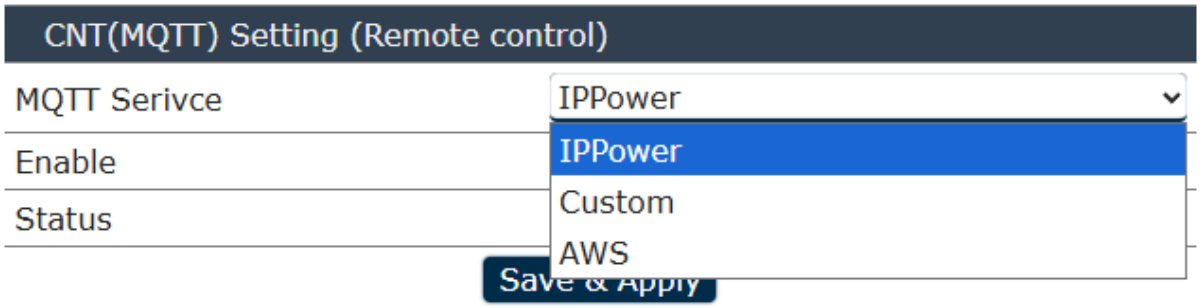


B. CNT (MQTT) Setting (Remote control)

For developing only. ATS 9820 PRO supports MQTT function, it provide the remote control connection by using IP Power app.



In MQTT service, you can also add your own Custom MQTT or AWS.
Please contact with your distributor for the details if you would like to develop own system.



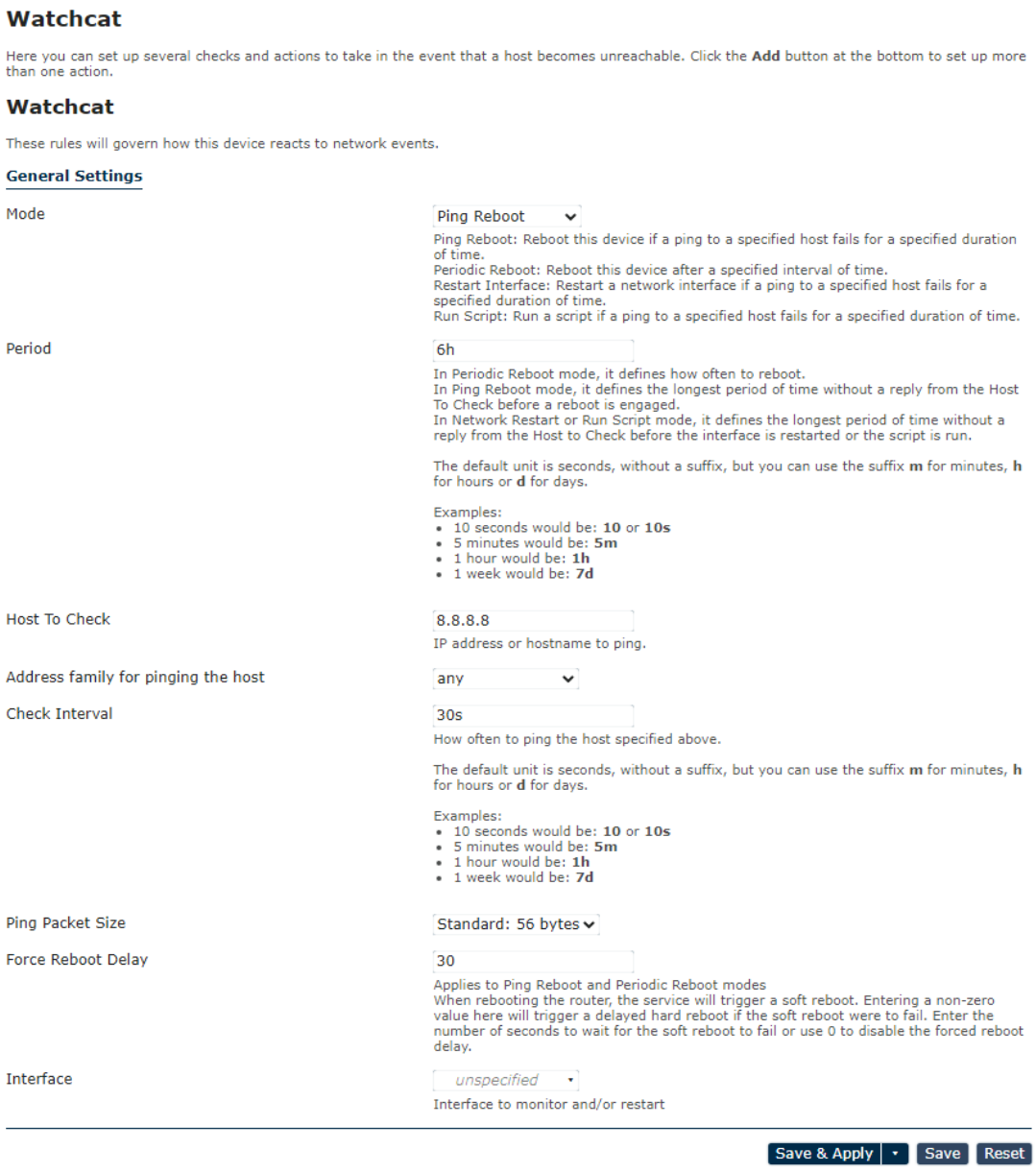
4.6.3 Watchcat

Watchcat allows to configure a periodic reboot and/or when internet connection has been lost for a certain period of time.

(1) Operating mode: Each mode show different setting options.

1. Ping Reboot:
   Reboot on internet connection mode: Detect the lost internet based on the Ping host and the period you setting.

For example, when you set the Ping host :192.168.1.128, and the period set on 1d=1 day or 16 h= 16 hours. If the detect no response, it will reboot the device automatically.



1-1 Period:

In Periodic Reboot mode, it defines how often to reboot.
In Ping Reboot mode, it defines the longest period of time without a reply from the Host to Check before a reboot is engaged.
In Network Restart or Run Script mode, it defines the longest period of time without a reply from the Host to Check before the interface is restarted or the script is run.

The default unit is seconds, without a suffix, but you can use the suffix m for minutes, h for hours or d for days.

Examples:
10 seconds would be: 10 or 10s
5 minutes would be: 5m
1 hour would be: 1h
1 week would be: 7d

1-2 Host to Check: IP address or hostname to ping

1-3 Address family for pinging the host: Three options to choose- Any, IPv4, IPv6

1-4 Check Interval:

How often to ping the host specified above.

The default unit is seconds, without a suffix, but you can use the suffix m for minutes, h for hours or d for days.

Examples:
10 seconds would be: 10 or 10s
5 minutes would be: 5m
1 hour would be: 1h
1 week would be: 7d

1-5 Force reboot delay: Applies to Ping Reboot modes

When rebooting the router, the service will trigger a soft reboot, Entering a non-zero value here will trigger a delayed hard reboot if the soft reboot were to fail. Enter the number of seconds to wait for the soft reboot to fail or use 0 to disable the forced reboot delay.

1-6 Interface: Interface to monitor and/or restart.

2. Periodic reboot mode: In this mode, ping host and period are removed. The device will reboot based on the period time you set.
   For example, if the device set 24h to reboot, the reboot will follow the setting until the times up or reset the setting.

Watchcat

Here you can set up several checks and actions to take in the event that a host becomes unreachable. Click the **Add** button at the bottom to set up more than one action.

Watchcat

These rules will govern how this device reacts to network events.

General Settings

Mode	Ping Reboot Ping Reboot: Reboot this device if a ping to a specified host fails for a specified duration of time. Periodic Reboot: Reboot this device after a specified interval of time. Restart Interface: Restart a network interface if a ping to a specified host fails for a specified duration of time. Run Script: Run a script if a ping to a specified host fails for a specified duration of time.
Period	6h In Periodic Reboot mode, it defines how often to reboot. In Ping Reboot mode, it defines the longest period of time without a reply from the Host To Check before a reboot is engaged. In Network Restart or Run Script mode, it defines the longest period of time without a reply from the Host to Check before the interface is restarted or the script is run. The default unit is seconds, without a suffix, but you can use the suffix **m** for minutes, **h** for hours or **d** for days. Examples: • 10 seconds would be: **10** or **10s** • 5 minutes would be: **5m** • 1 hour would be: **1h** • 1 week would be: **7d**
Host To Check	8.8.8.8 IP address or hostname to ping.
Address family for pinging the host	any
Check Interval	30s How often to ping the host specified above. The default unit is seconds, without a suffix, but you can use the suffix **m** for minutes, **h** for hours or **d** for days. Examples: • 10 seconds would be: **10** or **10s** • 5 minutes would be: **5m** • 1 hour would be: **1h** • 1 week would be: **7d**
Ping Packet Size	Standard: 56 bytes
Force Reboot Delay	30 Applies to Ping Reboot and Periodic Reboot modes When rebooting the router, the service will trigger a soft reboot. Entering a non-zero value here will trigger a delayed hard reboot if the soft reboot were to fail. Enter the number of seconds to wait for the soft reboot to fail or use 0 to disable the forced reboot delay.
Interface	*unspecified* Interface to monitor and/or restart

Save & Apply | Save | Reset

3. Restart Interface mode: Restart a network interface if a ping to a specified host fails for a specified duration of time.

Here you can set up several checks and actions to take in the event that a host becomes unreachable. Click the **Add** button at the bottom to set up more than one action.

Watchcat

These rules will govern how this device reacts to network events.

General Settings

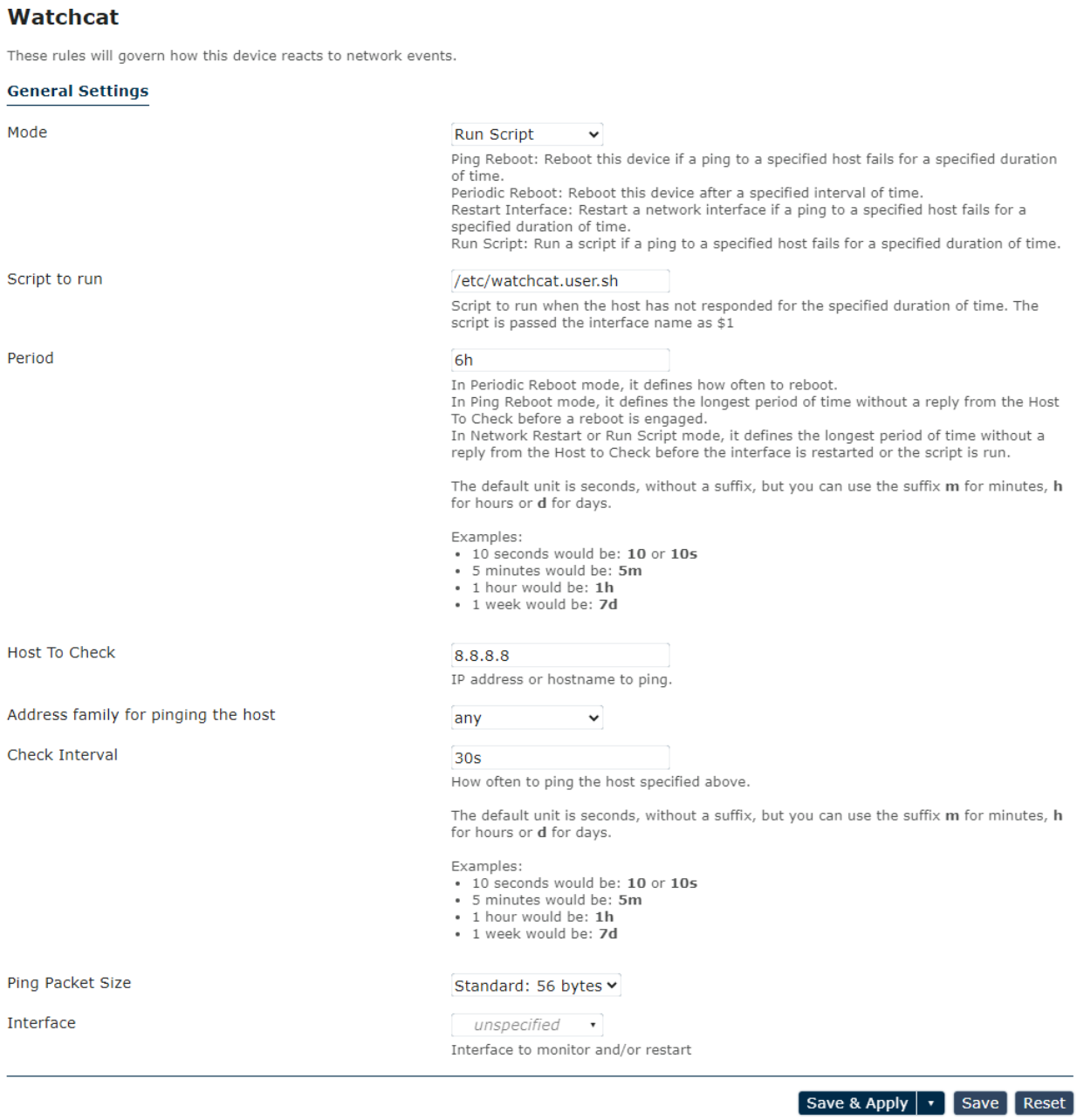
Mode	Restart Interface Ping Reboot: Reboot this device if a ping to a specified host fails for a specified duration of time. Periodic Reboot: Reboot this device after a specified interval of time. Restart Interface: Restart a network interface if a ping to a specified host fails for a specified duration of time. Run Script: Run a script if a ping to a specified host fails for a specified duration of time.
Period	6h In Periodic Reboot mode, it defines how often to reboot. In Ping Reboot mode, it defines the longest period of time without a reply from the Host To Check before a reboot is engaged. In Network Restart or Run Script mode, it defines the longest period of time without a reply from the Host to Check before the interface is restarted or the script is run. The default unit is seconds, without a suffix, but you can use the suffix **m** for minutes, **h** for hours or **d** for days. Examples: • 10 seconds would be: **10** or **10s** • 5 minutes would be: **5m** • 1 hour would be: **1h** • 1 week would be: **7d**
Host To Check	8.8.8.8 IP address or hostname to ping.
Address family for pinging the host	any
Check Interval	30s How often to ping the host specified above. The default unit is seconds, without a suffix, but you can use the suffix **m** for minutes, **h** for hours or **d** for days. Examples: • 10 seconds would be: **10** or **10s** • 5 minutes would be: **5m** • 1 hour would be: **1h** • 1 week would be: **7d**
Ping Packet Size	Standard: 56 bytes
Interface	*unspecified* Interface to monitor and/or restart
Name of ModemManager Interface	*unspecified* Applies to Ping Reboot and Restart Interface modes If using ModemManager, you can have Watchcat restart your ModemManger interface by specifying its name.
Unlock Modem Bands	☐ If using ModemManager, then before restarting the interface, set the modem to be allowed to use any band.

Save & Apply | Save | Reset

3-1 Name of ModemManager Interface:
Applies to Ping Reboot and Restart interface modes it using ModemManager, you can have Watchcat restart your ModemManager interface by Specifying its name.

3-2 Unlock Modem Bands:
If using ModemManager, then before restarting the interface, set the modem to be allowed to use any bond

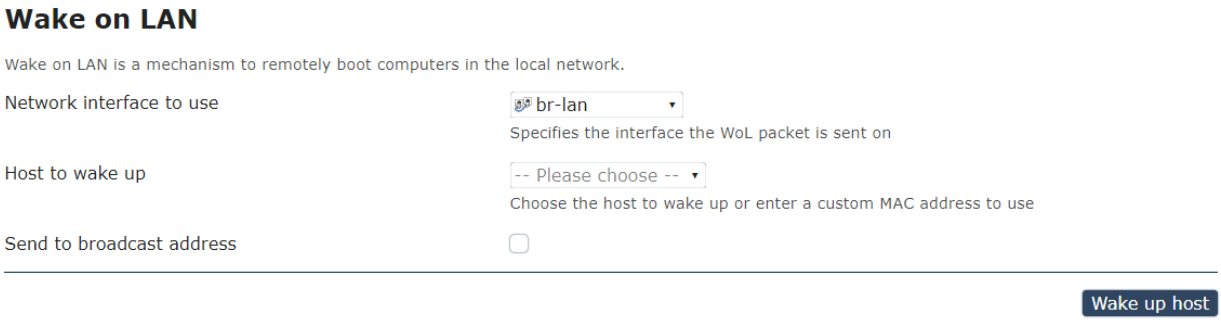
4. Run Script: Run a script if a ping to a specified host fails for a specified duration of time.



4-1 Script to run: Script to run when the host has not responded for the specified duration of time. The script is passed the interface name as $1

4.6.4 Wake on Lan

Wake on LAN is a mechanism to remotely boot computers in the local network.



- Network Interface to use: Specifies the interface the WoL, packet is sent on.
  (1) Bridge: "br-lan" (lan, lan6)
  (2) Ethernet adapter: "eth0"
  (3) Switch VLAN: "eth0.1"
  (4) Switch VLAN: "eth0.2" (wan)

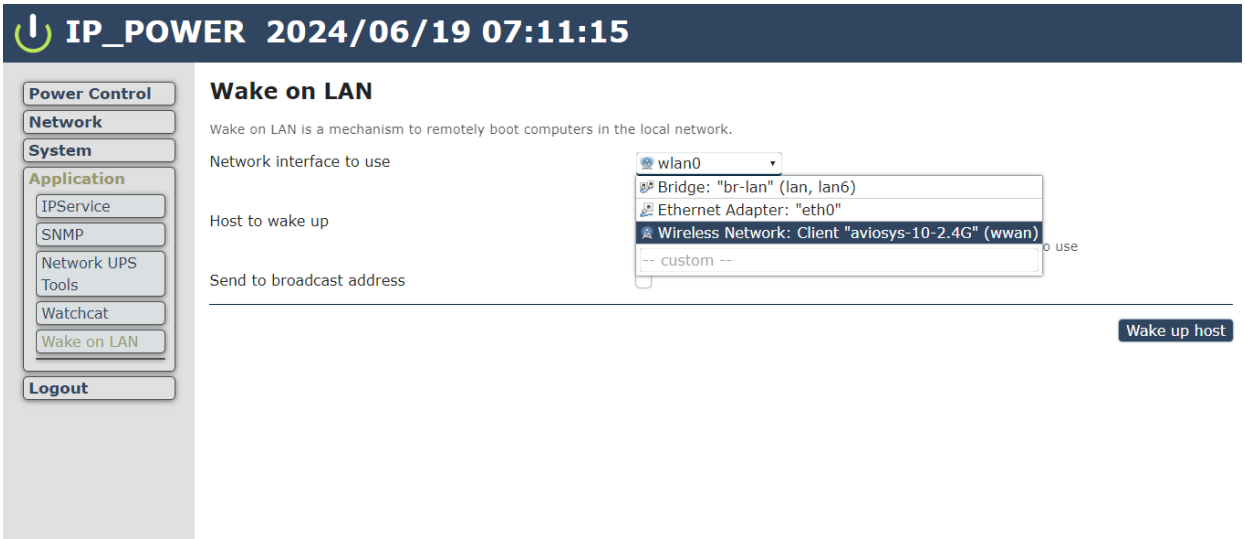
- Host to wake up: Choose the host to wake up or enter a custom MAC address to use.
- Send to broadcast address: Enable or disable the function

Support the wireless connection:

Click the “Network interface to use”, and choose the Wireless Network.

*Note: You must setting your wireless connection first, or the WOL will not appears this option.

To setting your wireless, please refer to the **4.4.2 (P.54)**

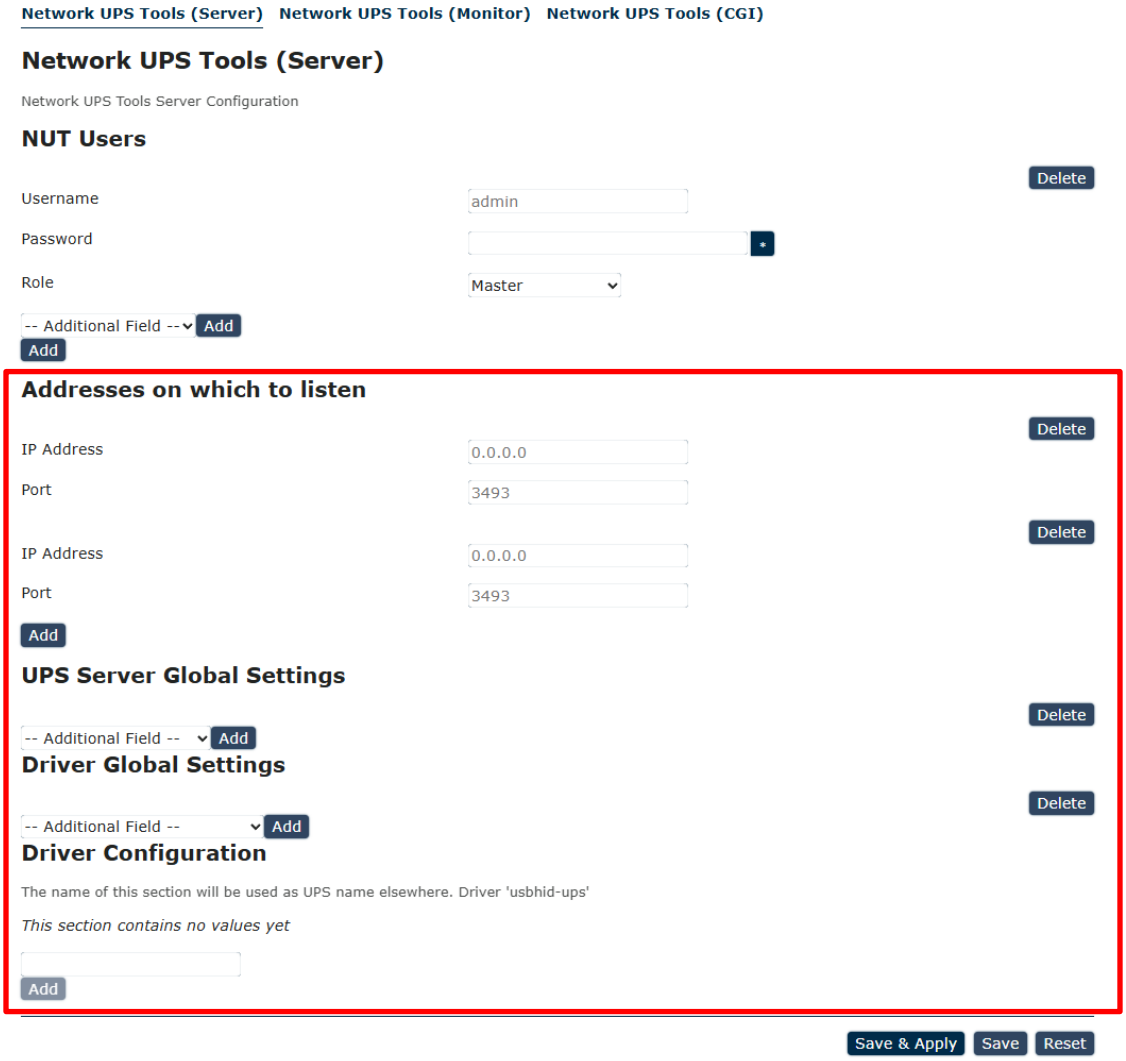


4.6.5 Network UPS Tools

This function can detect the electricity through UPS, plug by the USB port.
After setting your user name and password, move to the (CGI) section,
And click to " NUT CGI ", you can see the status of UPS.

1. Network UPS Tools (Server):

Network UPS tools server Configuration



(1) Username: Setting the username to login
(2) Password: Setting the password to login
(3) Role: Switch device role to Master or Slave

Warring: Except NUT users, don't change others settings in the red square, only if you are familiar with these function, you can attempt to setting by your own.

2. Network UPS Tools (Monitor)
   Network UPS tools monitoring Configuration

Network UPS Tools (Server) Network UPS Tools (Monitor) Network UPS Tools (CGI)

Network UPS Tools (Monitor)

Network UPS Tools Monitoring Configuration

Global Settings

RunAs User: nutmon
upsmon drops privileges to this user

Notify command: /usr/bin/notifycmd

Notification defaults: -- Please choose --
Execute notify command
Write to syslog

-- Additional Field -- Add

UPS Master

Delete

Name of UPS: myups
As configured by NUT

Hostname or address of UPS: localhost

Power value: 1

Username:

Password: *

-- Additional Field -- Add
Add

UPS Slave

Delete

Name of UPS:
As configured by NUT

Hostname or address of UPS:

Power value: 1

Username:

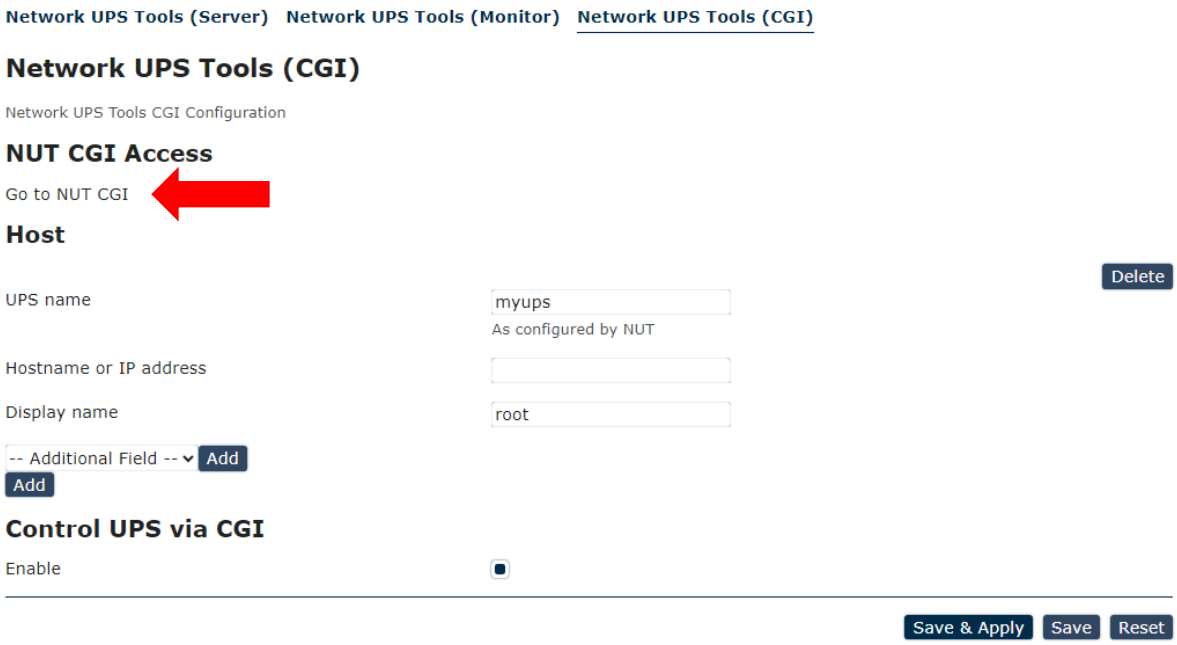
Password: *

-- Additional Field -- Add
Add

Save & Apply Save Reset

3. Network UPS Tools (CGI)

Network UPS tools CGI Configuration

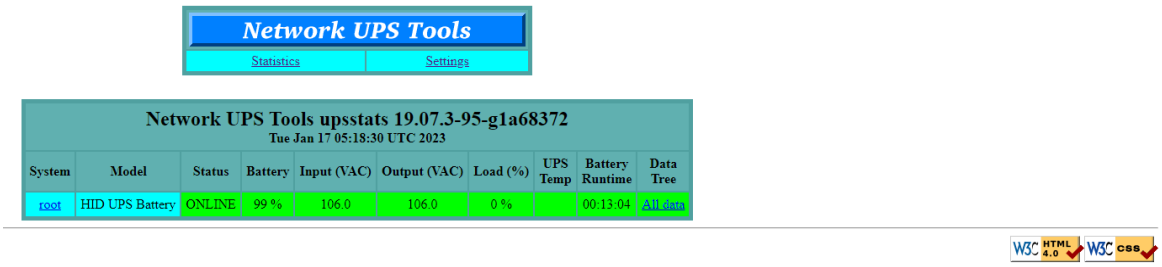


NUT CGI Access

Click the " Go to Nut CGI " icon, you will see the screen show network UPS Tools

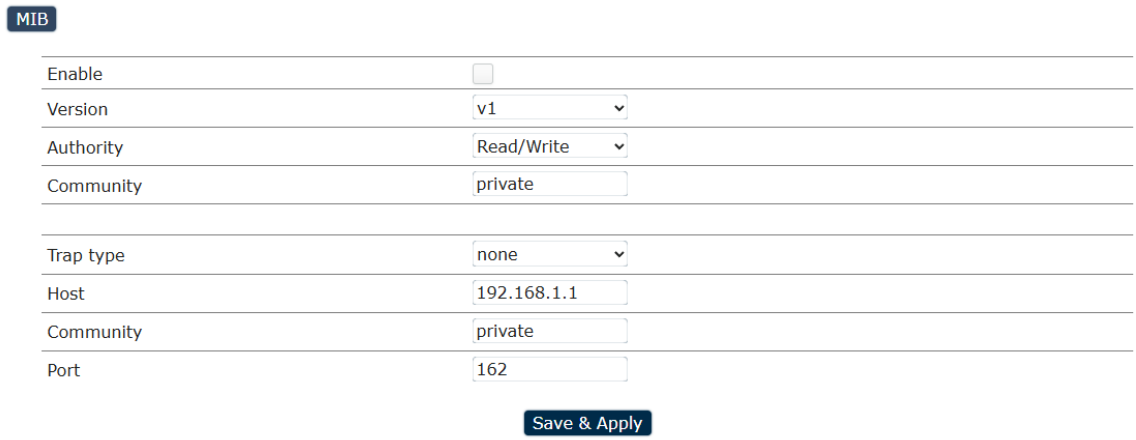
Statistics: Show the detect of UPS status.

Settings: (Under-development, please wait for advice)

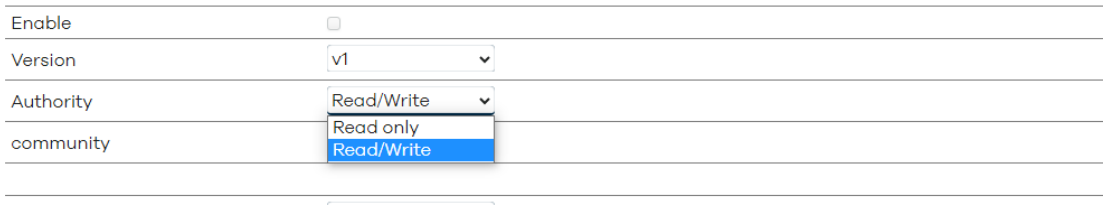


4.6.6 SNMP

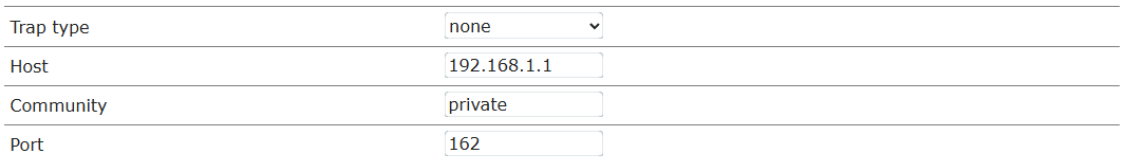
This section is for development of system integrator who is familiar with SNMP knowledge.



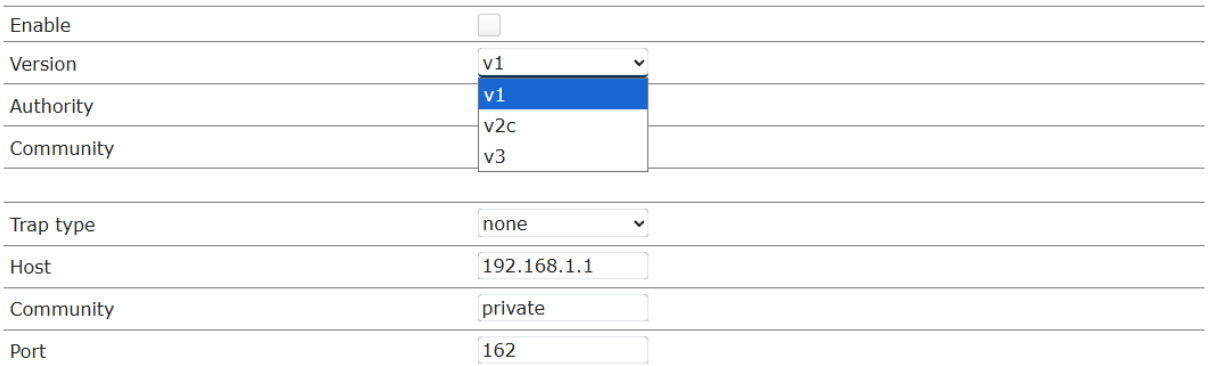
In Authority, user can select " Read only " or " Read / Write "



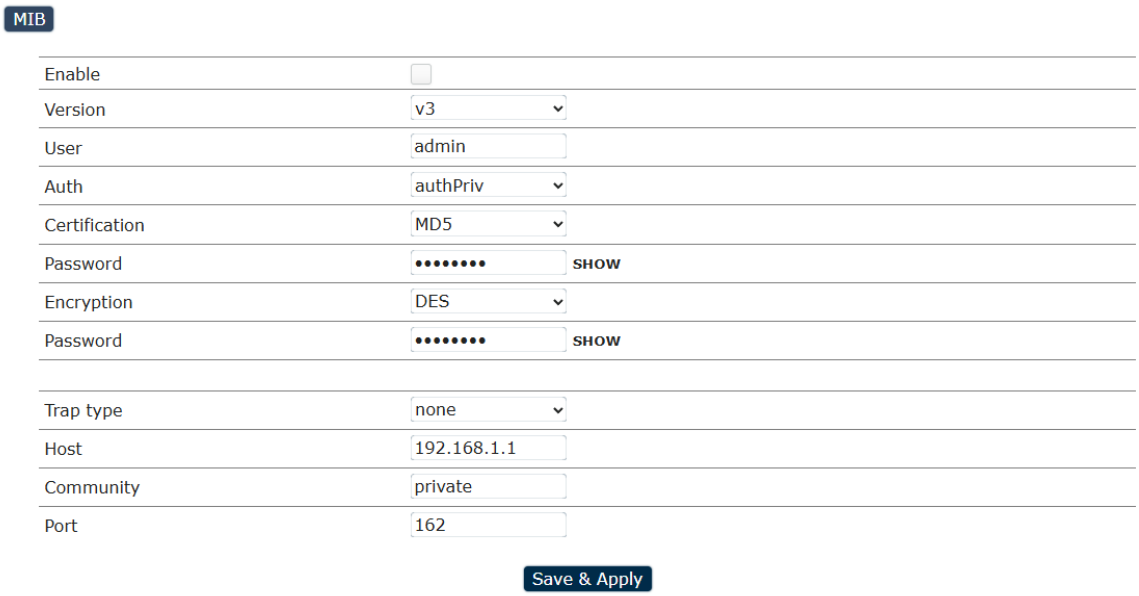
In " Trap " type ,user can select " trapsink " , " trap2sink " or " informsink "



SNMP Version: ATS 9820 PRO provide V1, V2c and V3 version. V1 and V2c remain the same settings, when you switch to V3, user can see the difference in the second picture.



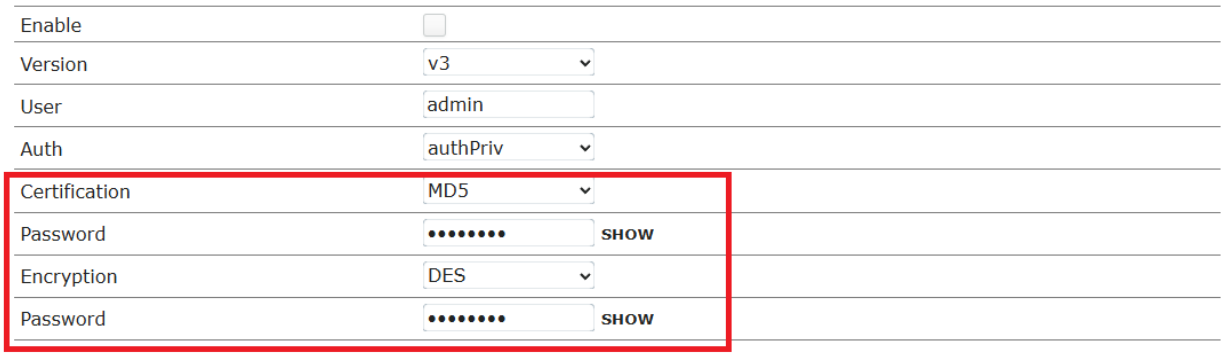
SNMP V3: Version V3 add new function, these are: auth, MD5 and DES



(1) auth: this function provide the certified and encryption to the device.
User can choose enable(authPriv) or disable(authNoPriv) the certified encryption.

(2) MD5: Setting your password for certified.

(3) DES: Setting your password for encryption.



5. Other ways to control

Besides HTTPS/CGI command and SSH we supply here, ATS 9820 PRO also support SNMP (MIB), Please check page #89 to check and enable the function.

5.1 CGI HTTP Commands

CGI Commands allow you to easily integrate the ATS 9820 PRO with other systems and programs. Pleaseread the instructions carefully on how to use the Http:// Commands

To use http:// Commands open up a web browser and type in the command that you would like to use.

1. User authorization .There are 3 formats :
   For example : IP address 192.168.1.18 ， Username : root. Password : 12345678

   http://192.168.1.18/set.cmd?user=root+pass=12345678+cmd=getpower
   The above command for HTTPS

2. Command
set.cmd?cmd=
All command do not separate capital / lower case , the connect symbol between commands can be “+” ， “&” and “?”.

2.1 To get firmware version : getversion
http://192.168.1.18/set.cmd?user=root+pass=12345678+cmd=getversion

System return :

```
<!--CGI-DATABEG-->
<p>
Version=v2.00_2026_07_31_op</p>

<!--CGI-DATAEND-->
```

2.2 To get MACaddress：getmac
http://192.168.1.18/set.cmd?user=root+pass=12345678+cmd=getmac

System return：

```
<!--CGI-DATABEG-->
<p>
mac=0076A80002A8</p>

<!--CGI-DATAEND-->
```

2.3 To get the status of power on/ off：getpower
http://192.168.1.18/set.cmd?user=root+pass=12345678+cmd=getpower

System return：
CGI Command : Data follows

```
<!--CGI-DATABEG-->
<p>
p61=1,p62=0,p63=1,p64=0,p65=0,p66=0,p67=1,p68=0,ats=1
</p>

<!--CGI-DATAEND-->
```

2.4 To set the power on / off ：setpower&p6x=0 or 1
p6x=0 means off，p6x=1means ON，

Example : Turn on POWER1 and turn off POWER1：
http://192.168.1.18/set.cmd?user=root+pass=12345678+cmd=setpower&p61=1
System return： CGI Command : Data follows p61=1, p61=0

```
<!--CGI-DATABEG-->
<p>
p61=0</p>

<!--CGI-DATAEND-->
```

2.5 Setup power to reboot as RESET：setpowercycle& p6x=delayTime
；dealyTime mean the time (second) waitingfor reset

For example :
http://192.168.1.18/set.cmd?user=root+pass=12345678+cmd=setpowercycle&p61=5

System return：CGI Command : Data follows p61 cycle ok

```
<!--CGI-DATABEG-->
<p>
p61=5,p61 cycle ok</p>

<!--CGI-DATAEND-->
```

2.6 Get current schedule value : getschedule

For example:
http://192.168.1.18/goform/getschedule11?user=root+pass=12345678

<!--CGI-DATABEG-->
,schedule0=000000000000000000000000000000000000
schedule0t=000;000;000;000;000;000;000;000
sch0lan_rule=0;1
schedule1=000000000000000000000000000000000000
schedule1t=000;000;000;000;000;000;000;000
sch1lan_rule=0;1
.
.
.
schedule29=000000000000000000000000000000000000
schedule29t=000;000;000;000;000;000;000;000
sch29lan_rule=0;1
,
<!--CGI-DATAEND-->

2.7 Get current Amp value : getcurrent

For example :
http://192.168.1.18/set.cmd?user=root+pass=12345678+cmd=getcurrent

System return：

<!--CGI-DATABEG-->

c61=0.0, c62=0.0, c63=0.0, c64=0.0,c65=0.0, c66=0.0, c67=0.0, c68=0.0

<!--CGI-DATAEND-->

2.8 Get current Amp value : getvoltage

For example :
http://192.168.1.18/set.cmd?user=root+pass=12345678+cmd=getvoltage

System return：

<!--CGI-DATABEG-->

voltage=108,voltage2=108,di=0;0

<!--CGI-DATAEND-->

2.9 Get temperature value : gettemp or gettemperature

For example :
http://192.168.1.18/set.cmd?user=root+pass=12345678+cmd=gettemp

System return：

```
<!--CGI-DATABEG-->
<p>
temperature=34.9</p>

<!--CGI-DATAEND-->
```

5.2 SSH commands

To login to the ATS 9820 PRO in SSH

1) Open the putty and select SSH, after typing your ID address, putty will appears the command line and ask for login.

   Login : root
   Password : 12345678 (**Note**: The password won't display when you type)

10.33.122.2 - PuTTY

```
login as: root
root@10.33.122.2's password:
```

(2) Command list:

root@ATS9820: ~

```
root@ATS9820:~# ioctrl -h
**-------------------------------------------------------------------**
Usage: ioctrl
 [-h | --help ]........: display this help
 [-s | --setpower p61=1 or 0]......: turn on/off ports on the device
 [-l | --setcycle p61=x (x=1~9999)]......: outlet, will turn 'off to on'
 [-a | --setats switch=x x=1 or 0]......: ats, turn 'main or second'
 [-p | --getpower ]..: get the on/off status of the device
 [-c | --current ].........: get the current value of the device
 [-d | --getdi ].........: get the digit input of the device
 [-v | --getvoltage ].........: get the voltage value of the device
 [--getmodbusdo]
 [--setmodbusdo] do1=0/1
 [-t | --temp ]........: get the temperature value of the device
 [-version ].....: display version information
 [-reboot ].....: System Restart
-----------------------------------------------------------------
root@ATS9820:~# ioctrl -s p6=1
p61 ok,
root@ATS9820:~# ioctrl -c
Current value: c61=0.0, c62=0.0, c63=0.0, c64=0.0,c65=0.0, c66=0.0, c67=0.0, c68=0.0
root@ATS9820:~# ioctrl -v
Voltage value:   0, Voltage value2: 110, Ats=Second
root@ATS9820:~# ioctrl -t
Temperature value: 41.50
Fahrenheit value: 106.7
root@ATS9820:~# ioctrl -p
p61=1,p62=1,p63=1,p64=1,p65=0,p66=0,p67=1,p68=1,ats=0
root@ATS9820:~#
```

Command example:

command setpower: ioctrl -s

```
root@ATS9820:~# ioctrl -s p61=1
p61 ok
root@ATS9820:~# ioctrl -s p61=0
p61 ok
```

command setcycle: ioctrl -l

```
root@ATS9820:~# ioctrl -l p61=15
p61 cycle ok
root@ATS9820:~# ioctrl -l p62=10
p62 cycle ok
```

command setats switch: ioctrl -a

```
root@ATS9820:~# ioctrl -a switch=1
root@ATS9820:~# ioctrl -a switch=0
```

Switch=1 → Main power source
Switch=0 → Secondary power source

command getpower: ioctrl -p

```
root@ATS9820:~# ioctrl -p
p61=1,p62=1,p63=1,p64=1,p65=0,p66=0,p67=1,p68=1,ats=0
```

command current: ioctrl -c

```
Current value: c61=0.0, c62=0.0, c63=0.0, c64=0.0,c65=0.0, c66=0.0, c67=0.0, c68=0.0
```

command getvoltage: ioctrl -v

```
root@ATS9820:~# ioctrl -v
Voltage value:   0, Voltage value2: 111, Ats=Second
```

command temp: ioctrl -t

```
root@ATS9820:~# ioctrl -t
Temperature value: 40.40
Fahrenheit value: 104.7
```

6. FAQ :

Q1: Why can`t I see the ATS 9820 PRO`s IP address in IPEDIT.exe

Ans: Please check if your ATS 9820 PRO had boot up successfully. There is a short beep sound to show ATS 9820 PRO boot up successfully after device power up around 45~51 seconds.

There are several possibilities for this issue as ATS 9820 PRO boot up successfully :

1. Segment of your PC :

Please make sure that the PC and the ATS 9820 PRO are connected to the **same router** or **network switch(Hub)**. Otherwise, they may be on different network segments (subnets) and will not be able to communicate with each other.

2. Firewall / Antivirus protection :

Please turn off some Anti-Virus / online chatting software.

If connect to PC directly, please wait for the boot up beep first and then connect the network cable to your PC. And the default IP is 192.168.1.168

Q2: Why can`t I see my ATS 9820 PRO after arrange the port forwarding in my router?

Ans: Please make sure the Network Type (Gateway) is correct - LAN or WAN .

Q3: Why can`t I receive e-mail ?

Ans: Please check the DNS and GATEWAY setting first (Check user router or ask user ISP company).There is a test button for checking the setting success or fail to send e-mail.

* If use Gmail, please refer page #65 to set your “APP password” in your google account.

Q4: How can I reset to default:

Ans: To reset to default settings : press the reset button with a sharpen pin for 5~7 seconds then RELEASE. There will be total 3 beeps sound which means reset start and ATS 9820 PRO will be rebooted itself -there is one beep after reboot, and most information go back to default setting (LAN IP)

Q5: If the ATS 9820 PRO loses power while both network connections are active, how can the network connection be restored?

Ans: When power is restored, the ATS 9820 PRO will automatically resume its network functions.

If the ATS 9820 PRO is configured with dual-network connections, it does not search for network connectivity based on the order of Net 1 and Net 2.
During startup, the ATS 9820 PRO will attempt to establish a connection through both network interfaces. As long as either Net 1 or Net 2 is available, the ATS 9820 PRO will successfully restore network connectivity.