IP Power 9820 MT

User Manual

Version: V1.00

(Firmware Version: 1.19_565)

Date Released: JAN. 2020

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

IMPORTANT NOTICE

1. IP Power 9820 MT 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 .
4. Do not shake the IP Power 9820 MT in any fashion
5. Please contact the dealer If IP Power 9820 MT is not working properly.

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1. Introduction

IP Power 9820 MT is a new generation of the Power Distribution Unit (PDU) & Remote Power Control (RPC) system. Its able to control in the network

With embedded web server and **HTTPS** protection , 9820 MT 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 Google Chrome , Safari and so on . There are App for **Android / iOS system** name **"IP Power "** for user to control the outlet power.

9820 MT allows user to remote control power up to 8 individual devices on/off / reboot via network . The total maximum current is up to **20AMP / 110V** or **15 Amp / 240V** .

Besides individual power control , user can also check the **current** consumption of each port , **voltage** and external **Temperature** value , LOG information & send LOG to assign IP(Syslog) . There is a LCD display show the IP and the other Voltage /Current /Temperature information

Support **SSL & SNMP,** user can use public email like Gmail / Hotmail / Yahoo mail to get the advice of outlet status change. User can also **control by** e-mail without doing port forwarding / port mapping and search the other IP Device in webpage directly **.**

Not only control manually, 9820 MT supports **Auto Ping , Time Scheduler** which is more suitable for factory / office / home automation . 9820 MT can auto control one outlet as **DI get status change** (Dry contact) Or use the **IR remote controller -** without web browser operation

User can connect **USB Power Bank , has** one **12V 1A power out** (un- controllable). has **QR code** of different network to log in fast and easy , can BACKUP the setting and export the same setting to multiple IP POWER to make the installation procedure more efficient , apply Own Langrage display in webpage .

For system integrator developing , there are several popular tolls like , **MQTT *** , **UPNP **** , TelNet , SNMP and HTTP / CGI Command (SDK) for .

* MQTT 1.3.1 Cloud IoT protocol - supports
Cloud IoT Server of Microsoft AZURE , Google Cloud IoT & Amazon AWS IoT

** UPNP -- No need to do " port forwarding " from router , simply enter webpage via Wan (user's router need to support UPNP)

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2. Product information

2.1 Features :

1. 8 ports individual Remote power switch for power On, Off and Reboot.
2. Web Server built-in design, directly control by web browser in PC & Smartphone (WIN, Android & iOS) , like IE , Google Chrome **,** Safari.
3. Network connection : DHCP, Static IP & UPNP (**)
4. Network Protocol -- **HTTPS** / SSL , SNMP(MIB), NTP**,** DHCP, TCP/IP, SMTP, UDP, DDNS.
5. **HIGH Power usage inquire :**
   - Adopt high grade Component & Relay for better quality / performance / durability
   - Maximum current per outlet **:** **15 Amp / 100VAC (IEC 320) or**
     10 Amp / 240VAC (NEMA)
   - Maximum current total 8 outlets**: 20 Amp / 100VAC or**
     15 Amp / 240VAC

6. Detect the consumed of Current , Voltage & external Temperature
   - Voltage Range **:** 90 ~ 260VAC
   - Current Range **:** 1 ~ 10 Amp
   - Temperature **:** -20 ~ 70℃ / -4 ~ 158℉ .

   And Alarm as over setting by beeper and by e-mail
7. Handheld **IR Remote controller** to control without PC
8. **SYSLOG** : Support Log function & send to assign IP address
9. 2 USB ports
   A.. USB1 for :
   - USB Temperature& Humidity Sensor 8871 & USB e-Meter 8870
   - USB to RS232 data transfer. (need external board)
   - 4G / NBIOT Dongle - HUAWEI E8372

   B. USB 2 for Power Bank Input

10. Time Schedule - can pre-set a suitable time to turn power on / off automatically .
11. **Auto Ping** for network control & segment management automatically
12. Higher grade Component & Relay for better quality / performance / durability
13. **Back Up** for quick setup for multiple devices like Time Schedule, Network Setting.
14. Support public e-mail -- @gmail. , @yahoo , @hotmail. .....etc.
15. **E-mail Control** & Advice :
    - Receive e-mail with IPs device boot up.
    - POP3 Control–Control each outlet ON/OFF through E-mail**.**
16. Protection of " FUSE " & " **Inrush Current** - **Power Surge** " - fit for Light control application
17. **App "IP Power " –** free download in Google play or App Store
    - Controls the outlet power ON/OFF without doing Port Forwarding / Port Mapping
    - Quick search in LAN / WAN (like IPEDIT & IP Service)

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18. QR Code detection for easy & fast apply on
19. Arrange own langrage display in webpage

    Second Developing tool (SDK) : CGI / HTTP command , SNMP(MIB) , Telnet , **Modbus TCP/IP , BACnet/IP & MQTT** (***)

** UPNP -- No need to do " port forwarding " from router , simply enter webpage via Wan (user's router need to support UPNP)

******* MQTT 1.3.1 Cloud IoT protocol - *Cloud IoT Server of Microsoft AZURE , Google Cloud IoT & Amazon AWS IoT* .

20. Specific software developed by Aviosys and provided free of charge :
    - SDK Available : HTTP Command (Compatible with 9820)
    - IP Power Center - control multiple Aviosys IP devices in same AP.
    - CNT software (Cross Network Technology)- allows user eliminate set up work on any Router without port forwarding- No Need to do Port Forwarding . , simply Plug & Play .

2.2 Specification

● INLET

Input plug	IEC60320 **C20** . 50 - 60Hz
Voltage	100-240VAC Auto sensing
Protection	Fuse 250VAC 15 Amp (9820MT-S) (IEC320 C13) Fuse 100VAC 20 Amp (9820MT-T) (NEMA 5-15)

● OUTLET

Output plug	● 9820MT-S : IEC 320 C13 * 8p or ● 9820MT-T : NEMA 5-15 * 8p
Maximum current per outlet	15 Amp / 100VAC (IEC 320) or 10 Amp / 240VAC (NEMA)
Maximum current of total loading	20 Amp / 100V or 15 Amp / 240V

● PHYSICAL & ENVIRONMENT

Dimention (WxDxH)	450 x 170 x 45 mm
Unit Weight	1.60 kg
Operating Temperature	- 20°C ~ 70°C or -4°F~ 158 °F
Warranty	Standard 1 year

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2.3 Minimum System Requirements

Web Browser of WINDOWS / iOS / Android : Google Chrome , Safari , **IE and so on .**
Network connection for Internet connection .
Internet HUB & Switch (with RJ45 port)

2.4 Package Contents

9820 , IR remote power controller , EARs (with screws) , DI connector and Cable Tie .

2.5 Interface

Front View

From Left side to right side

Network & USB :	**Network Connection :** For 10/100 Mbps network . There are 2 network RJ45 connect : NET1 - Green - for network connection NET2 – Gray - for by pass as hub function only **Please connect NET1 to the Router/ Hub / IP Switch.** **2 USB Connection :** A.. USB 1 for : - USB 887X : 8871 & 8870 - USB to RS232 serial port - 4G / NBIOT Dongle - HUAWEI E8372 B. USB 2 for Power Bank Input
LINK	For network connection .
Number 1 to 8 - Outlet status	To indictor the power ON /OFF status of each outlet Light in Green : power ON Light in RED : power OFF
Reset :	To reset to original manufacture settings, hold down the

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	reset button with a sharpen pin for 10 seconds then release. There are THREE beeps response (short –- mid long – short) which means reset successfully and 9820MT will be rebooted itself (one beep after reboot) and most information go back to default setting .
Temp :	This is the Temperature Sensor (RED , on board) to detect the temperature around of 9820 . The detect range is -20 ~ 70 ℃ / - 4 ~ 158℉ .
IR :	This area is for receiving the signal from handheld IR remote controller
DI :	Dry Contact
Power Light :	Device power .
DC 12V Out	**Supply DC 12V 1A power.**
LCD Display :	Show the IP address , Temperature, Voltage and current of each port .

Rear View

From Left side to Right side

Power Inlet :	100~240 VAC & 50~60HZ , IEC320 C20.
Power Switch:	The Power switch turns on the input power.
Breaker Reset :	This is Fuse protection to prevent electrical surges from damaging the unit. The 9820MT comes with one spare fuse in the unit.
8 Outputs:	9820MT-S : IEC 320 C13 .

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	The Maximum current of each outlet is **10A / 240VAC .** 9820MT-T : NEMA 5-15 . The Maximum current of each outlet is **15A / 100VAC**

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 Hardware Connection

Before hardware connection, please make sure that there is no more than 2 net work card (include dynamic network card) . If there are morn than two network card in your PC. You may not get the IP address of 9820MT

The default setting for 9820 MT to get IP is DHCP mode - get IP form Router. If user do not use router and connect the 9820 MT to your PC directly or connect to HUB which have no DHCP function , the connection sequence of network cableand power cord are different . Please refer following procedure :

A. 9820 MT ------- Router ------- PC (with Web browser)

1.) Connect the Ethernet cable (RJ45) to the 9820 MT to your local area network.

2.) Then connect the power cable into the power input port of the 9820 MT.

3.) Connect the device that you would like to control to the output plug on the top of the 9820 MT.

4.) Switching the power source to ON status , this switch is located at the rear of 9820 MT.

5.) After power on for around 45 seconds , there is a short beep sound for 9820 MT which means the system reboot successfully

B. 9820 MT ---------- PC (with Web browser) or HUB

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If you select to connect to PC directly , please connect the RJ45 cable to 9820 MT after 1 minutes as power on of the 9820 MT device . power hear the beep sound of 9820 MT DO NOT connect the RJ45 as power ON

1.) Connect the power cable to 9820 MT and press the power switch to ON

2.) After 9820 MT power on for around 60 seconds , there is a short beep sound for 9820 MT which means the system reboot successfully

3.) Then Connect the Ethernet cable (RJ45) to the 9820 MT to your PC.

6.) Execute the software IPEDIT.exe to get the IP as 192.168.1.169

7.) Please make sure the IP address of you PC is also 192.168.1.X / XX/XXX or you may not log in the 9820 MT webage in 192.168.1.169

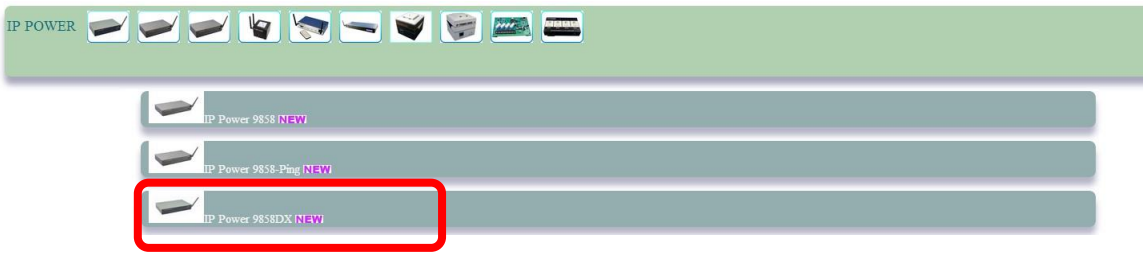
3.3 Software Installation

Please Go to www.aviosys.com/cd . The note with this online CD link comes with the package .

IP Power Software:

IP Edit (Required)
IP Power Center *(For multiple IP Power devices control purpose)

1.) Select the IP Power 9820 MT



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

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

Then you can select to connect 9820 MT.

3.3.1 LAN connect by IP Search software " IPEDIT "

IP Edit is a search tool designed to search, configure, or access the IP Power 9820 MT from a local networked computer.

IP Power 9820 MT Default Login / Password

Default IP: 192.168.1.168 (if there is no DHCP router assigned IP)
Default Login username : admin
Default Password: 12345678

1.) In the local devices section user will see user device show up if connection correctly.

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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 9820 MT 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. **Network card** : Please check if there are morn that two network card – include wire / wireless / dynamic - in the PC which used IPEIT software . IPEDIT only support single network PC , please disable the other network connection / functions.

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

4. **Power** : If there is no power go to 9820 MT , please check the fuse part . There will be no power for 9820 MT if the fuse buttons is pup up - not easy/flexible to press as it was – by over loading for long time , please press the fuse back and the power will go to 9820 MT to boot up .

5. **Connection** : Please make sure that the 9820 MT 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 .

2.) Select the 9820 MT device and the device information will pop up on the right.

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3.) Check to see that the gateway IP and the IP Address (9820 MT) match user current network.

If not, type in the correct information, then hit the submit button to save changes.

For example:
If user have the following information regarding the 9820 MT and user network

User PC Network :
Computer IP Address: 192.168.1.122
Gateway: 192.168.**1**.1
Sub Net mask: 255.255.255.0
Port: 80

User 9820 MT in IPEDIT :
9820 MT IP Address: 192.168.100.34
Gateway: 192.168.**100**.1
Sub Net mask: 255.255.**0**.0
Port: 80

Since the IP Address of the 9820 MT is : 192.168.100.34

User will need to make sure that the first 3 segments of user 9820 MT IP Address must match the first 3 segments of user gateway IP.

First 3 Segment of Gateway Address: 192.168.1.X
So user new IP Address for the 9820 MT should be: 192.168.1.X
New Network Information

9820 MT IP Address: 192.168.1.26
Gateway Address: 192.168.1.1
Local Computer IP Address: 192.168.1.122
Sub Net mask: 255.255.255.0
Port: 80

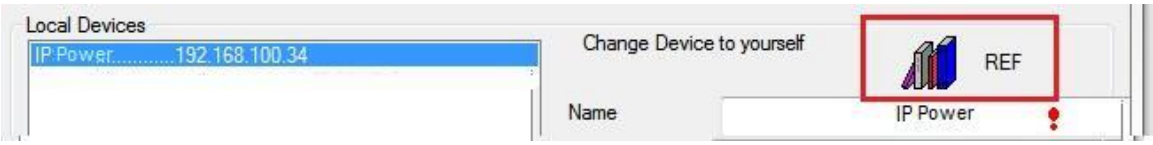
4.) Press the " Rescan " button to see if changes have been made.

5.) Double click on the device in the local device section and an IE web browser with the device login will pop up.

6.) Type in the default Login and IP Address to enter the device.

Default Login : admin Default : 12345678

Notice :
* User can click " REF " in IEPDIT to auto search proper IP setting for 9820 MT.
It will take few minutes to show the suggest wizard.



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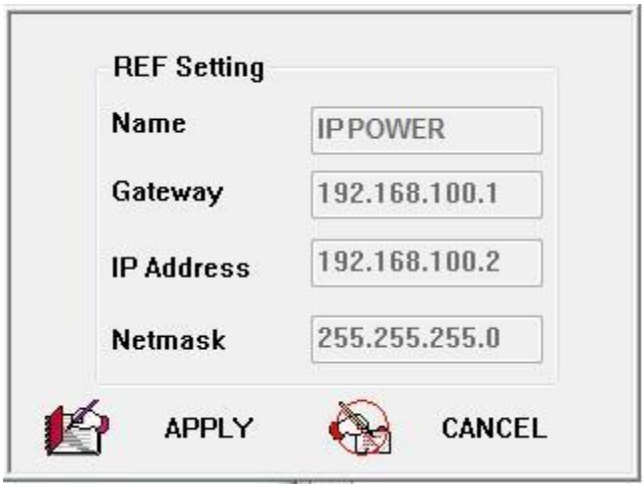

Please click " APPLY " as seeing the suggest wizard , click " yes " to ignore the remind message of IP being used and then type the Username and Password to change the IP setting.

Username : admin
Password : 12345678

Notice :
Segment : The first 9 digits of the IP Address .
EX: The IP of user PC is 192.168.100.122. If the " Local IP Address " is 192.168.100. x (X can the value of 1~252) , user PC can get into the webpage of 9820 MT .

3.3.2 Internet Setup

To connect the IP Power 9820 MT on Internet, there are two 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

3.3.3 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 IP Power device and user can easily find IP Address with IP Service. ***To log in the webpage of 9820 MT on Internet , user still need to do the "Port Forwarding " in own router.***

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

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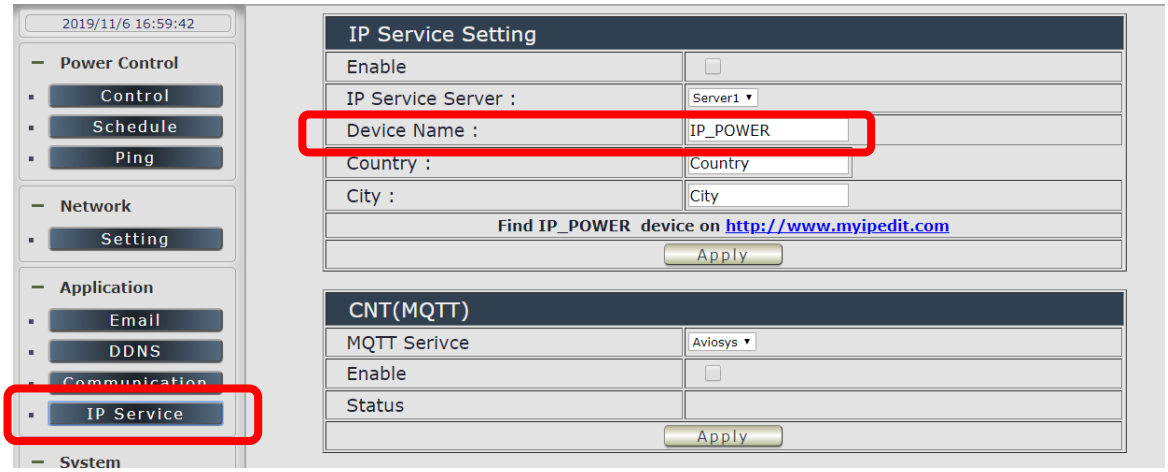
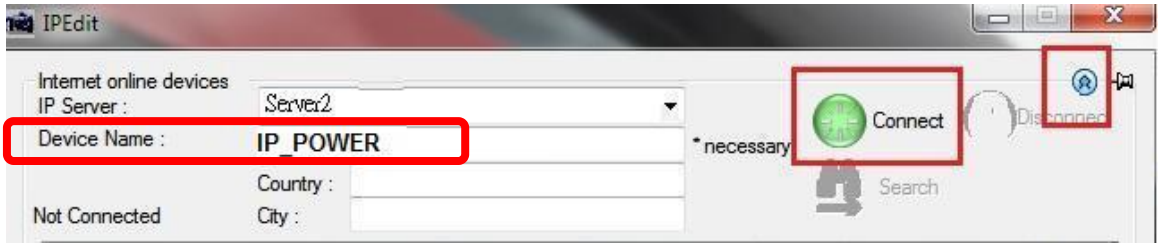


1.) Open IP Edit and select the server that user's 9820 MT is designated to.

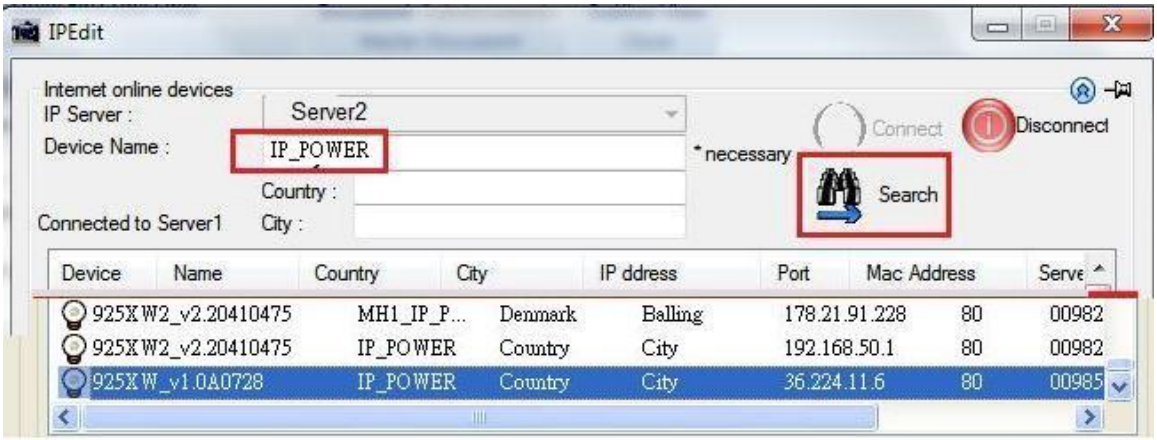
2.) Hit the Green Connect button on the top of IP Edit.



3.) Then type in the 9820 MT 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 9820 MT device name as IP_POWER , and user can search the device easily :



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

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4. Web Interface

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

The default Username and Password for the 9820 MT

Username : admin
Password: 12345678

The Control Console

The Right side Menu of the Web Interface control the functionality and setup of the IP Power 9820 MT.

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

1. **Top Column** : Device name & Column Display (for smart phone).
2. **Information :** Time , Temperature , Voltage , DI status , USB information , Outlet name & Current Amp value .
3. **IO Control :** Control , Schedule & Ping.
4. **Network :** Setting
5. **Application :** Email , DDNS, Communication & IP Service
6. **System :** Management, Information, SysLog & Firmware
7. **Logout**
8. **Firmware version**

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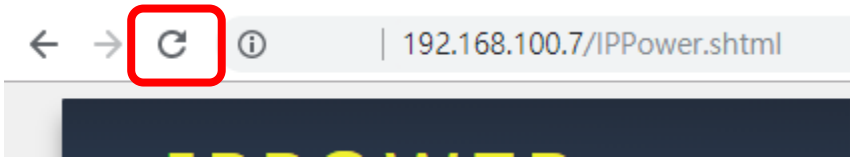
4.1 Top Column

4.1.1 Device name

This section show the device name . You can change the device name here : Application → IP Service → Device name Change name " IP POWER 9820 MT " as "Enjoy 9820 MT "

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

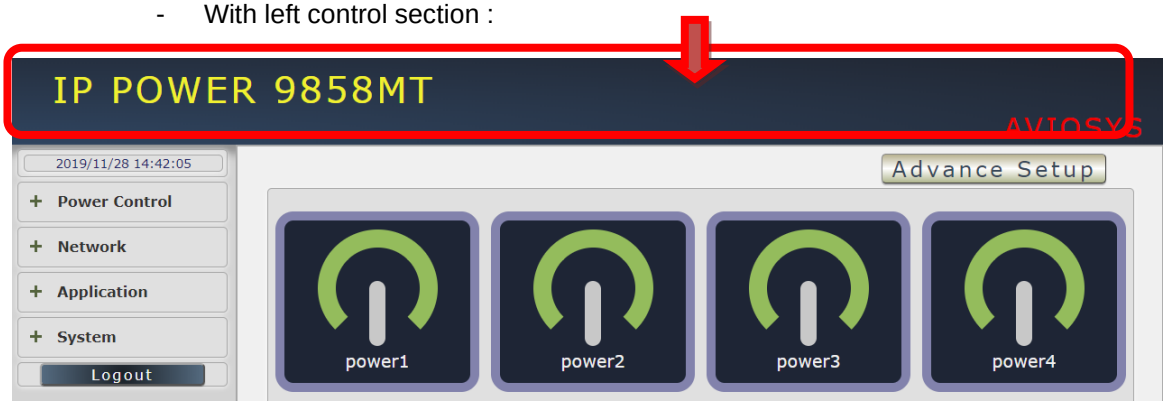
After apply the change , please click " Refresh " of the webpage to get the display update .



4.1.2 Column Display :

For Smartphone user to control 9820 MT easily , user can select to show or to hide the left control section by pressing the blue area near device name for Smartphone control :

- With left control section :



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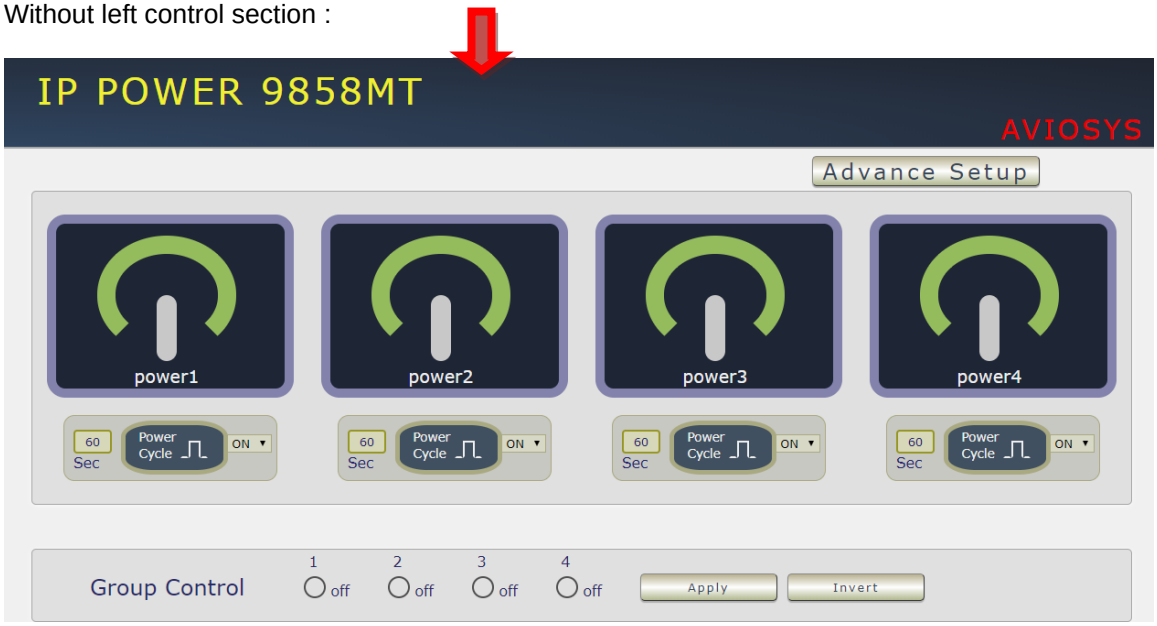
Without left control section :

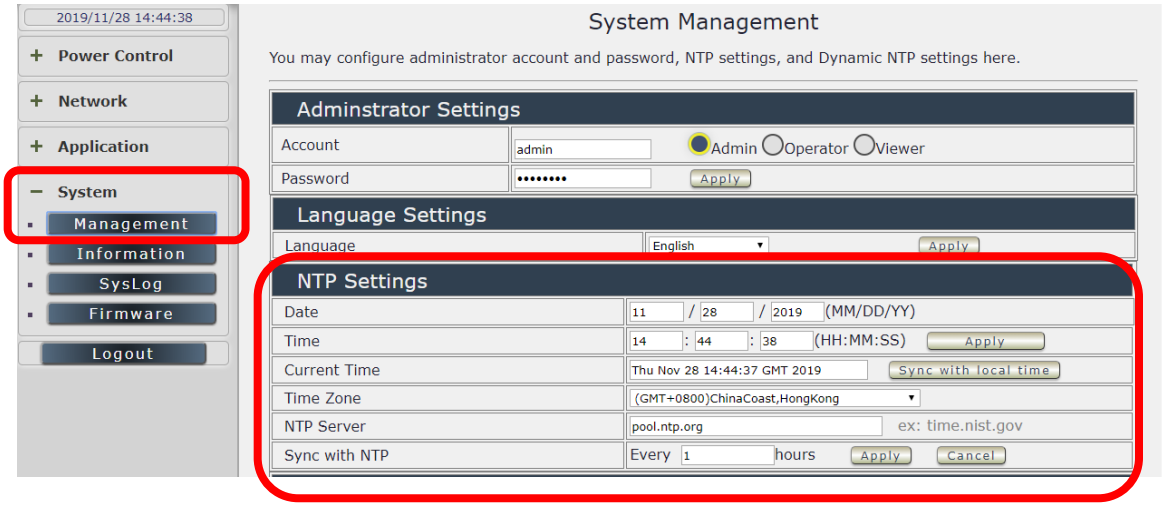


4.1.3 Time :

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

To setup the Time , Please go to " System → Management → NTP Settings " , please press "Apply" to save the new setting . There are 3 time sync solution :

Time - Manual setting , Current time - sync with Local PC or NTP Server



1. Time - Manual setting : fill the assigned time and then click "Apply " in time section

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2. Current time - sync with the local PC log into 9820 MT .
3. NTP Server - sync with the assigned sever and can setup the times for sync

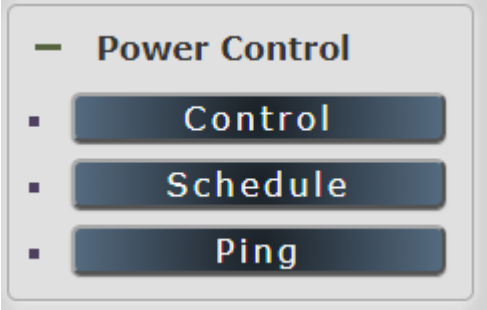
Notice : As using NTP server , as webpage time count will be slower than the device time , please refresh the webpage or use the TELNET command " date " to confirm the device time.

```
IP_POWER login: admin
Password:


BusyBox v1.12.1 (2019-07-08 01:01:56 PDT) built-in shell (ash)
Enter 'ioctrl -h' for a list of built-in commands.

# date
Mon Oct  7 13:54:37 GMT 2019
#
```

4.2 Power Control :

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

There are 3 sections : Control , Schedule & Ping .



4.2.1 Control

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

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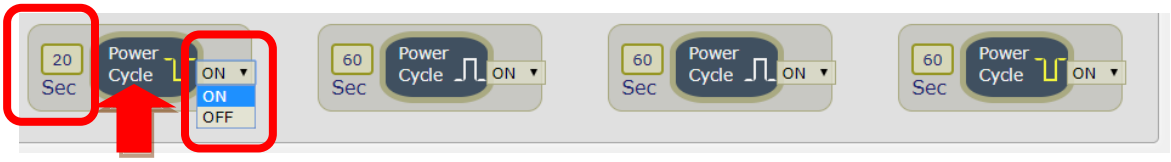
A. Power Control :

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

1. Manually Control : Each port ON or OFF directly by pressing the button.

For example : The following pictures means that Power #1 & #4 is ON , Power #2 & #3 is OFF

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



- As ON, Select OFF and press “Power cycle ” then the outlet status is ON → OFF.
- As ON, Select ON and press “Power cycle ” then the outlet status is ON → OFF → ON.
- As OFF, Select ON and press “Power cycle ” then the outlet status is OFF→ ON.
- As OFF, Select OFF and press “Power cycle ” then the outlet status is OFF→ON →OFF

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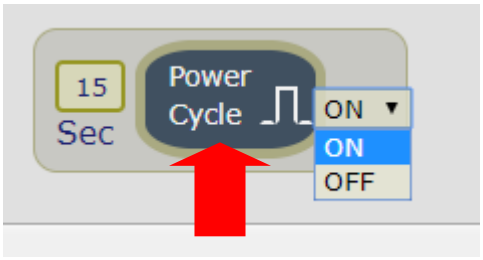
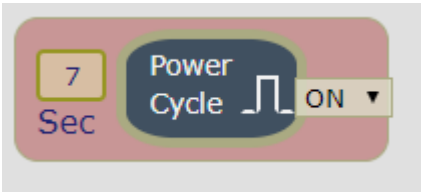
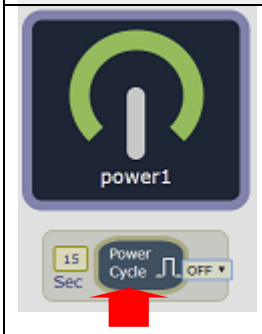
User can setup the time and the final status in power cycle as ON / OFF





For example : (sec = seconds)

	Original Outlet as " ON " , select final status as " OFF " & fill 3 sec . After press " power cycle " button, the outlet will be ON for 3 seconds and then turn OFF . ON (3 sec) →OFF
	Original Outlet as " OFF " , select final status as " OFF " & fill 15 sec . After press " power cycle " button, the outlet will turn ON for 8 seconds andthen turn OFF . OFF → ON (15 sec) → OFF
	Original Outlet as " OFF " , select final status as " ON " & fill 15sec . After press " power cycle " button, the outlet will turn OFF for 15 seconds and then turn ON . OFF (15 sec) → ON

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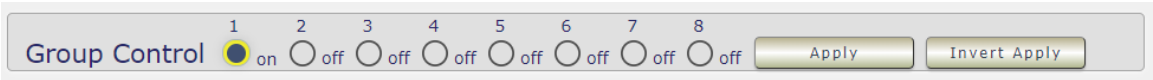
Original Outlet as “ ON “ , select final status as “ ON “ & fill 10sec . After press “ power cycle “ button, the outlet will turn OFF for 10 seconds and
then turn ON .

ON -- > OFF (10 sec) → ON

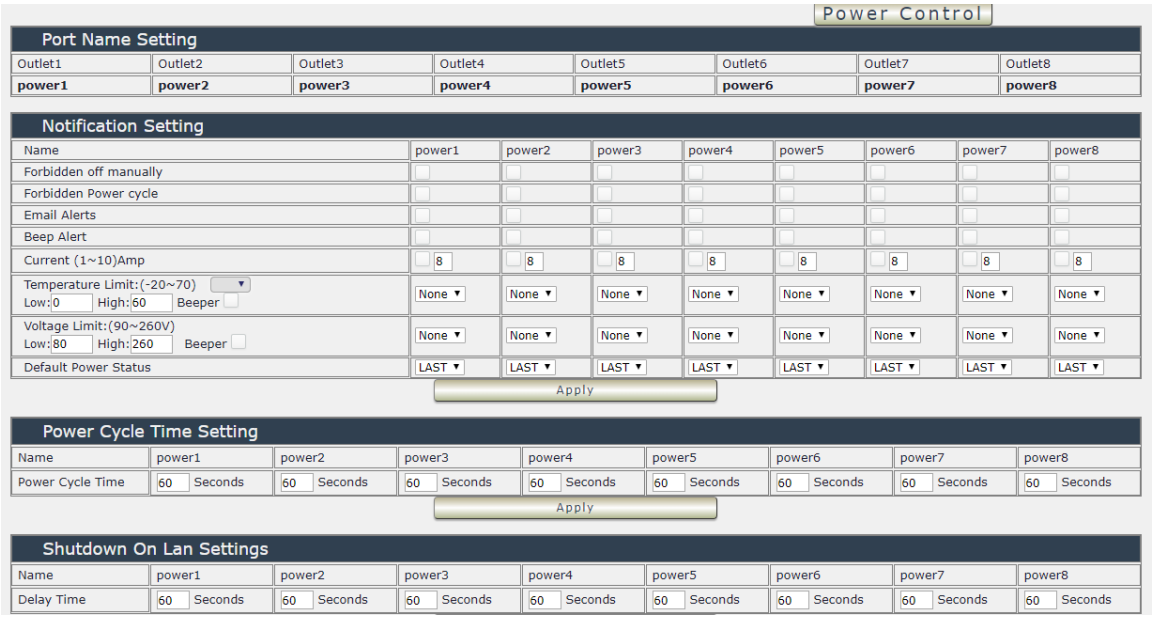
3 Group Setting : User can control more than one outlet by press the right side “Apply “ button . For safety concern , each port of 9820 MT will turn ON or OFF one after one .



- Apply : Setup the ON/OFF by the buttons status .
- Invert Apply : Change the outlet status from ON to OFF ,or form OFF to ON by one button contorl.

B. Advance Setup :

In this page, user can setup Name of each port , Notification , Power cycle , Shutdown On LAN Settings , Wake On Lan Settings



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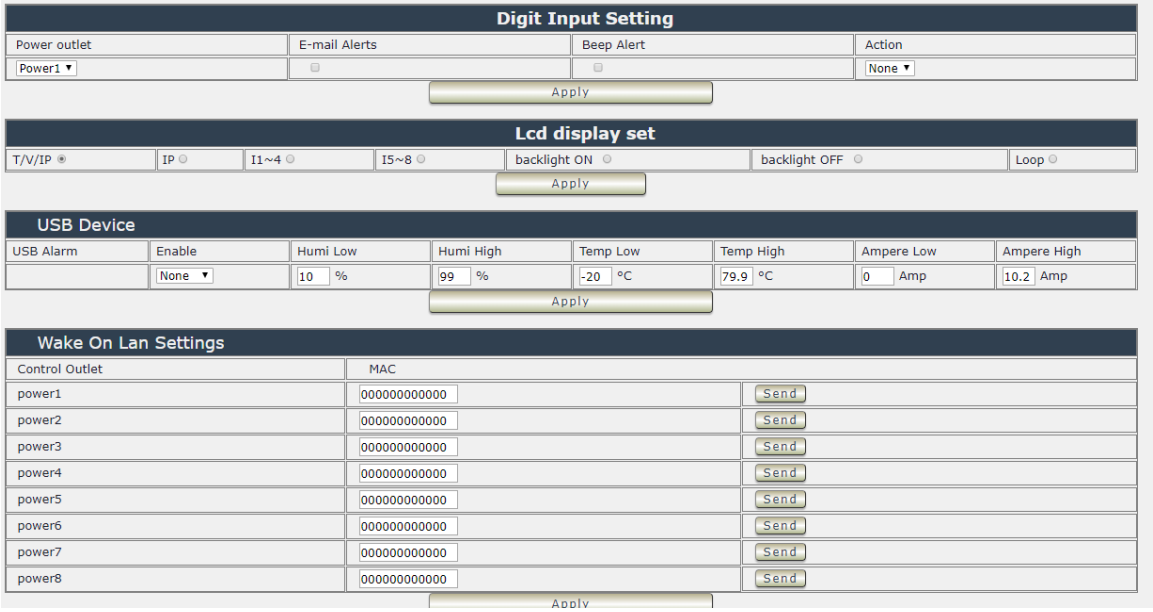
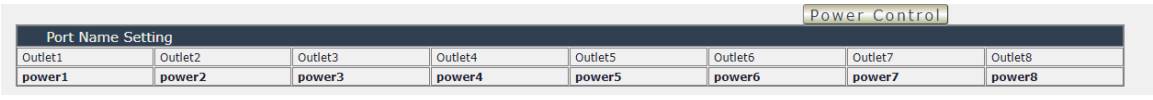


B.1 Name of each port

User can name each power by click the name above the power button . The number of character is max. **12** characters and Please change the name in English only and do not use symbol like !@#$%^&*()_+

Note : Please change the name in English only and do not use symbol like !@#$%^&*()_+

Example : Change the outlet #1 from " power1 " to " server-001 "



After click confirm , the page will go to " power control " page to show the update name.

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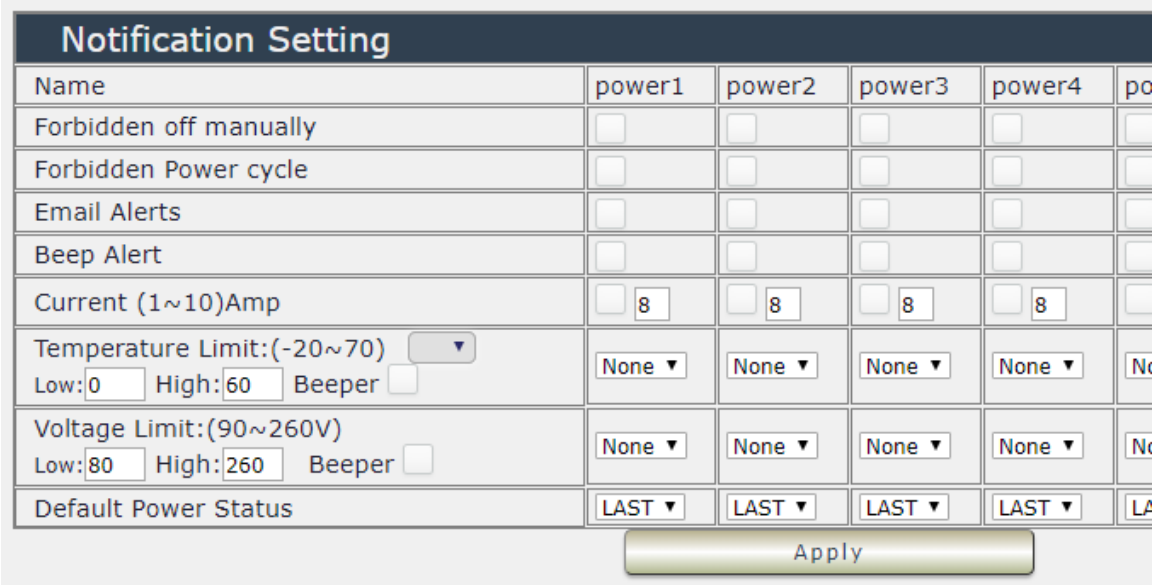
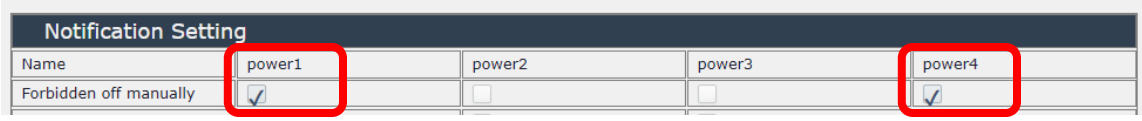
B.2 Notification setting

User can do several notification here .



- Forbidden off manually : Select by port will disable the power control in webpage . The disable is for the control in webpage only .The control through HTTP command is still working .

For Example : Select the control in webpage of power 1 & power4 for be disable



Then the page will be as following :

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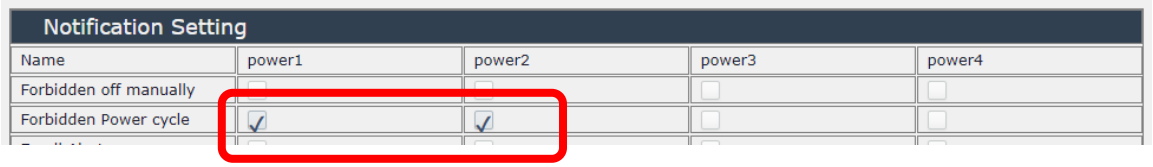
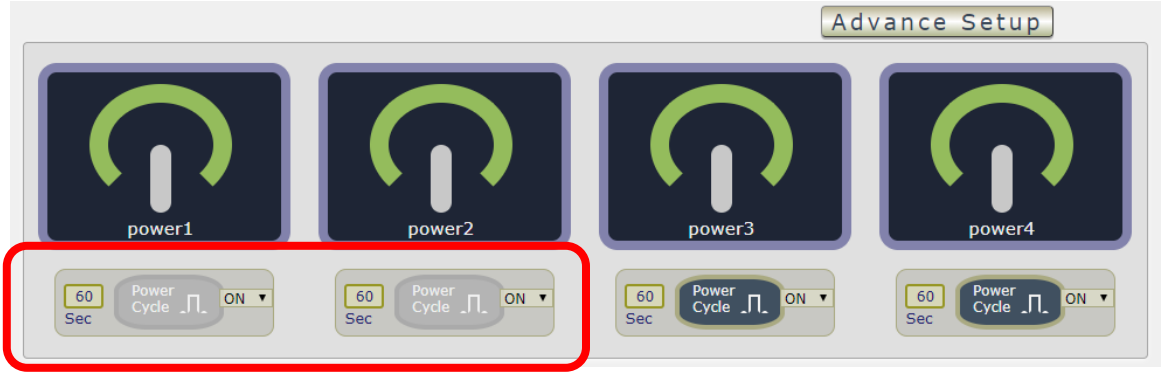
- Forbidden power cycle : Select by port will disable the power cycle control in webpage . The disable is for the control in webpage only .The control through HTTP command is still working .

For Example : Select the power cycle control in webpage of power 1 & power 2 for be disable



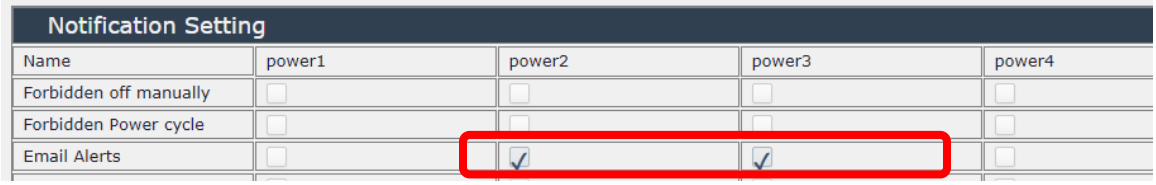


- Email Alerts :

Use can enable /disable the e-mail alarm here .The e-mail alarm section allows 9820 MT to notify user by following situation :

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

To get E-mail about of power status , please go to " Application → E-mail.



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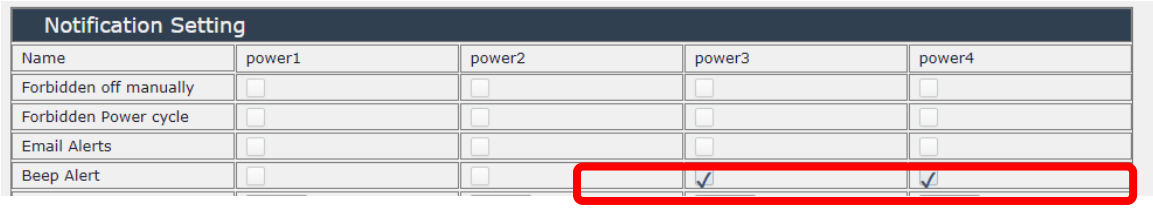
- Beep Alarm Setting:
  User can setup the operation beep (short time beep) sound here.



- Current Alarm Setting: to enable the protection as over current and setup the maximum value. The range of each outlet is 1~ 10 amp . As over the setting value, 9820 will keep beeping for several times and then turn OFF the power output automatically.

Over Current Protection (Max. Current limit)

There has " over current protection" in 9820MT. As the Amp value of power number is over the setting or over the maximum value 10 Amp, 9820MT will automatically turn off that power A in few seconds . There is an alarm with beep sound and via e-mail advice as over current. The alarm can be enable or disable for each power in Alarm setting of Power Control in IO Control section.

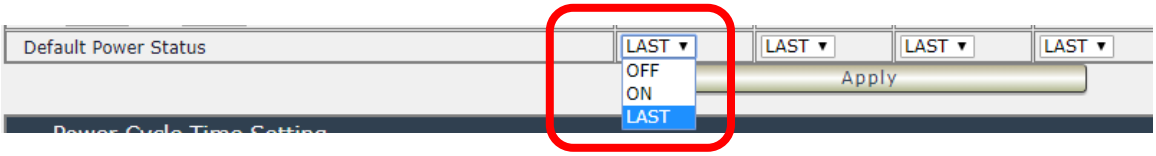
As the detected Amp value is over the current limit setting, 9820MT will keep short 2 beep for several times to remind the over loading issue happened and then turn off that output after a long beeping .

- Temperature Alarm Setting: to enable the protection as over temperature and setup the maximum value of temperature. The range is at -20 ~ 70 ℃ / -4 ~ 158 ° F . As over the setting value, 9820 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 V AC . As over the setting value, 9820 will keep beeping for several times and then do the setting ON/OFF/None by user.

For safety concern , each port of 9820 will turn ON or OFF one after one

- Default Power Status : The control section allow user to set the power status on ON or OFF or LAST when the device get power rebooted . As select "Last " , the output will be at the same status ON / OFF before the device power turn off . To save the setting here , please click "Apply " button .



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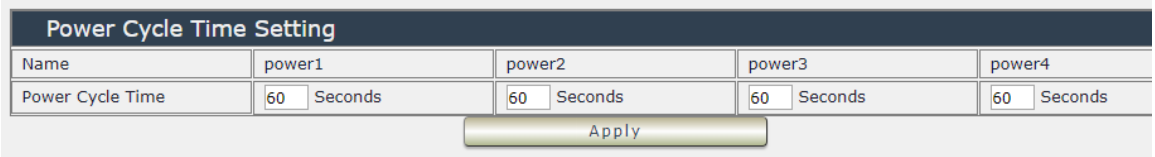
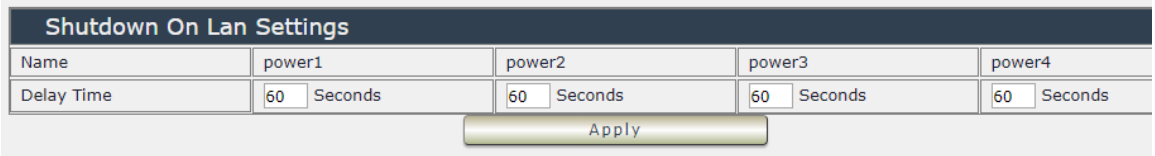
- Power cycle time setting :



- Shutdown On Lan Settings :



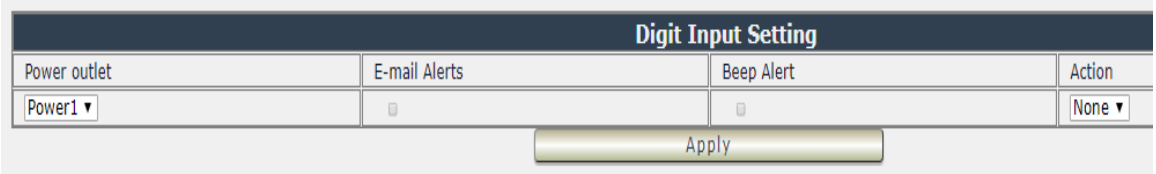
9820 MT can be used to safely turn off the **WINDOWS or LINUX** system through Network. With this feature you can remotely shutdown any system which that is connected to the IP Power 9820 MT through normal Windows / LINUX shut down procedure. Before operating the software shutdown function it is essential to install our software.

Please check the software in the SDK section of package CD .
File name : Shutdown_On_LAN

NOTE : The delay time setup in this section is for " Shutdown ON LAN " procedure . Not for outlet ON/OFF function

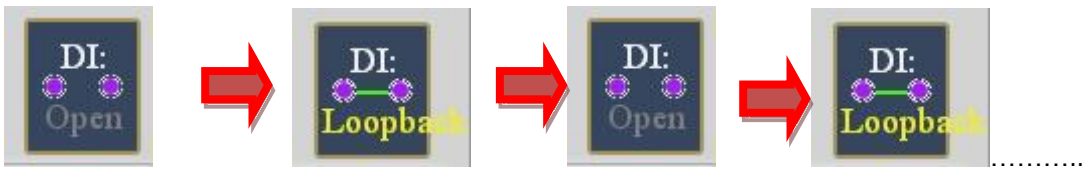
- Digit Input (DI) Setting :

  - Enable /disable the email / beep alarm as DI status change
  - Setup Auto Control on one outlet to be ON/OFF /NONE as DI (Dry Contact) status change . Do the Action at one time only



For example :

Outlet #1 is OFF . Setup the power outlet " power #1 " to action "ON" as DI status change



.....

Outlet status : OFF → ON → ON → ON

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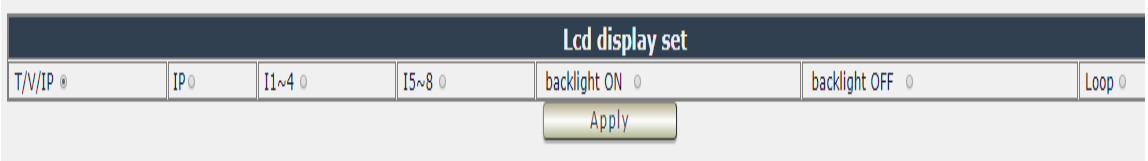
- LCD Display :



User can select the display contents in LCD panel :

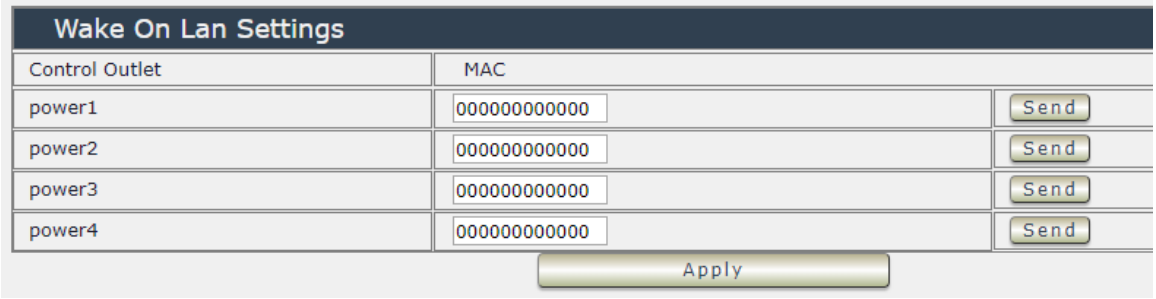
- Show either fix contents - " T/V/IP = Temperature / Volt / IP " or " IP " " Current of outlet #1~ #4" or " Current of outlet #5~ #8

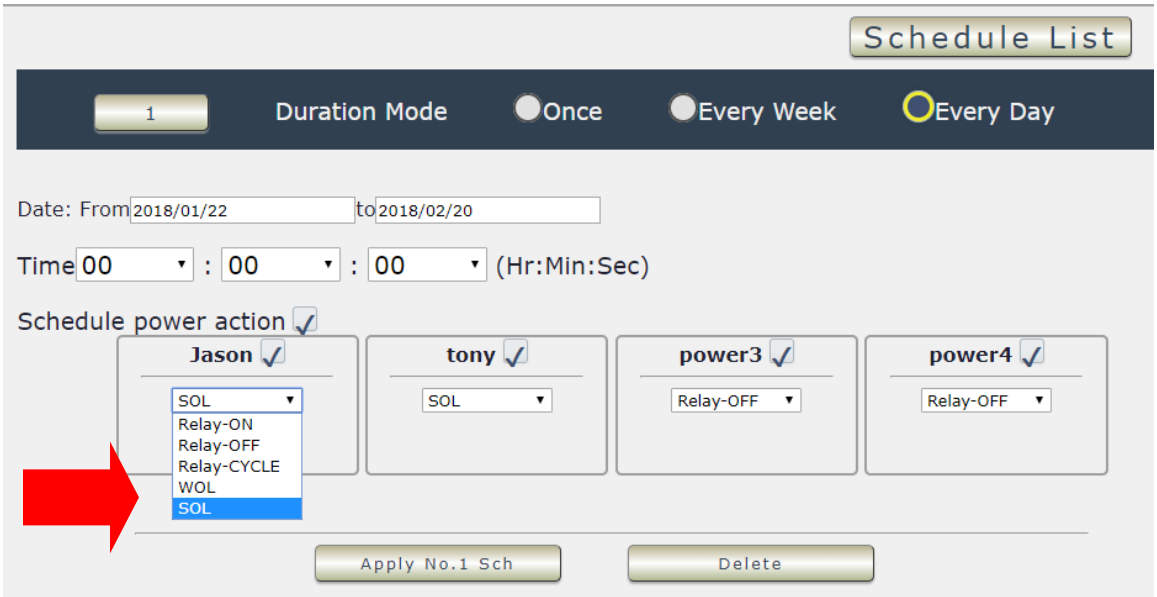
Or Loop - " Temperature Volt / IP " , " IP " , " Current of outlet #1~ #4" , " Current of outlet #5~ #8 " display in turns.

- Adjust the back light on / off the LCD panel .

- 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 .





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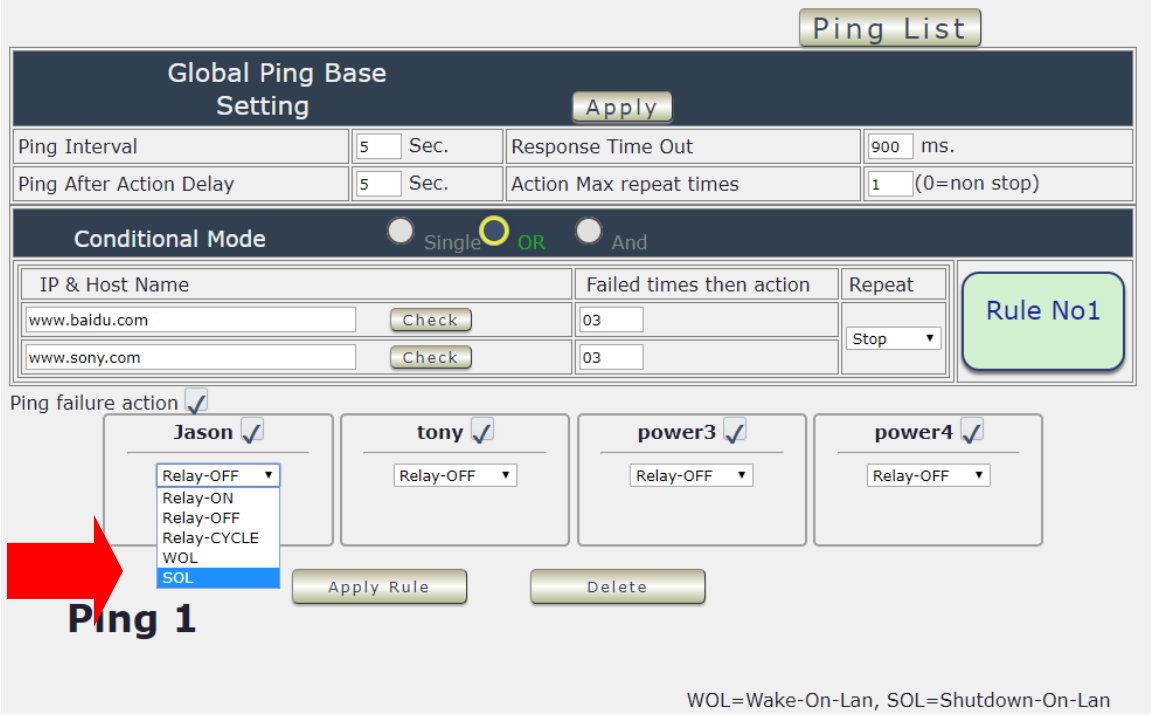
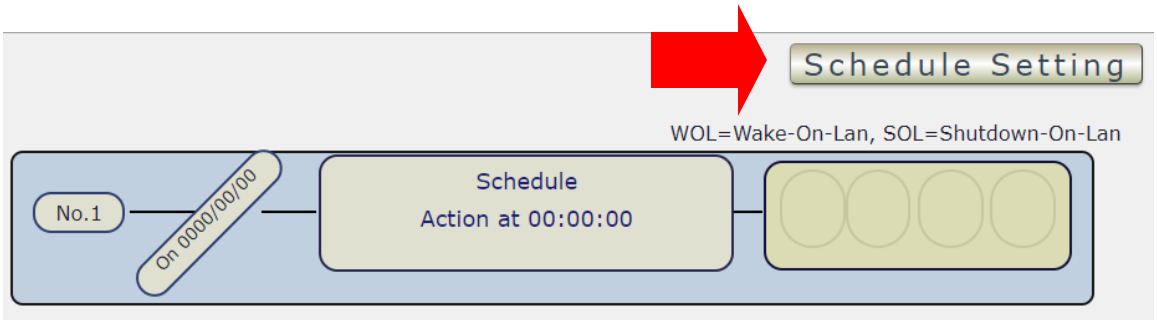
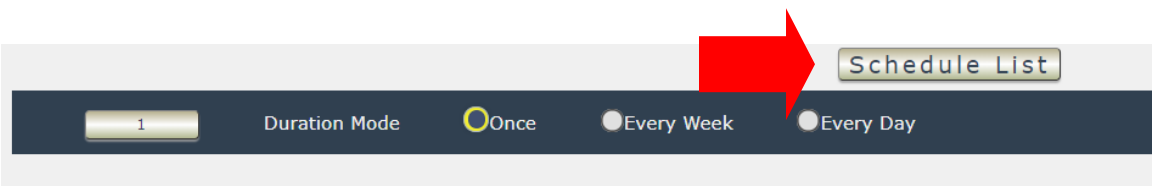


4.2.2 Schedule

In this section , user can see the setting schedule list first up to 29 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 or turn ON / OFF/ RESET at assigned time

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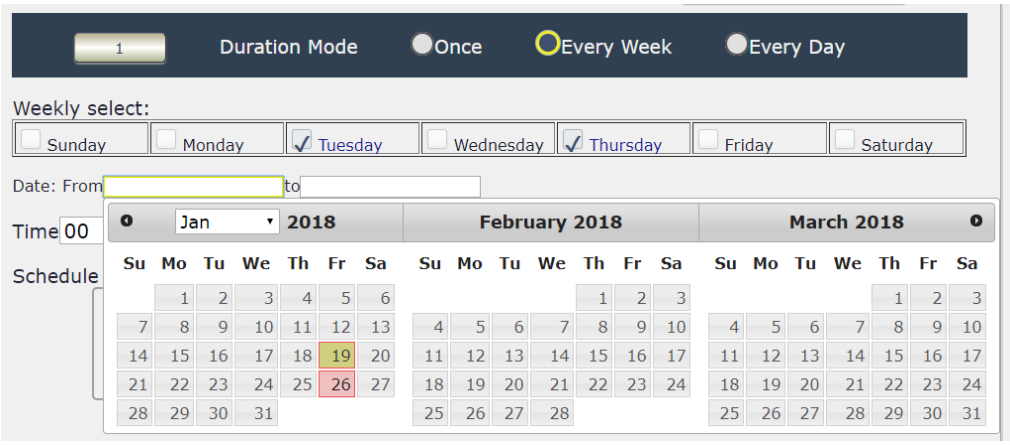
- Adding a Scheduled Event

1. Select the Action Duration :

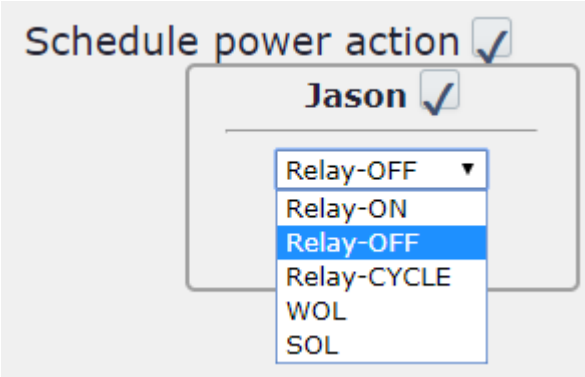
   There are 3 setting - Once , Every Day . Every Week

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 Action : Enable power # by clicking in the small square to mark " v " , and select one from the power action of OFF/ON/RESET as you need. .



Once the scheduler has been Set Up , hit the " ADD No.:X Power Schedule " button and you will see your setting located on the bottom of the Action section .

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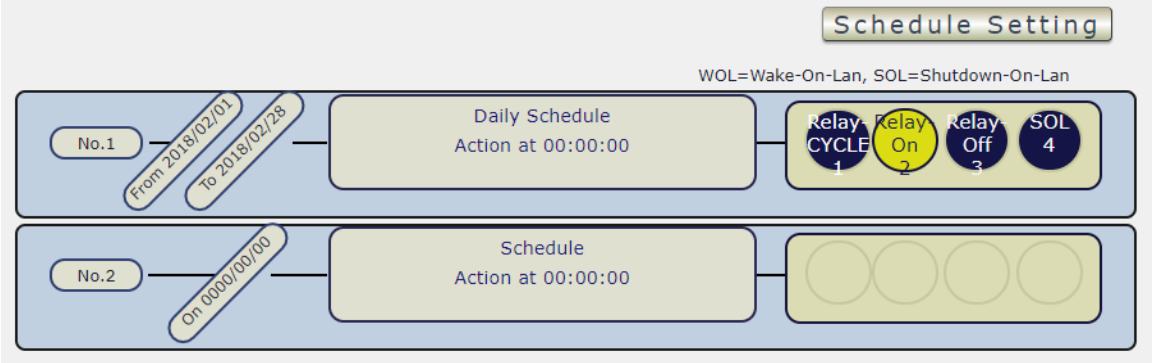


- **Apply / Edit a Schedule Event :**

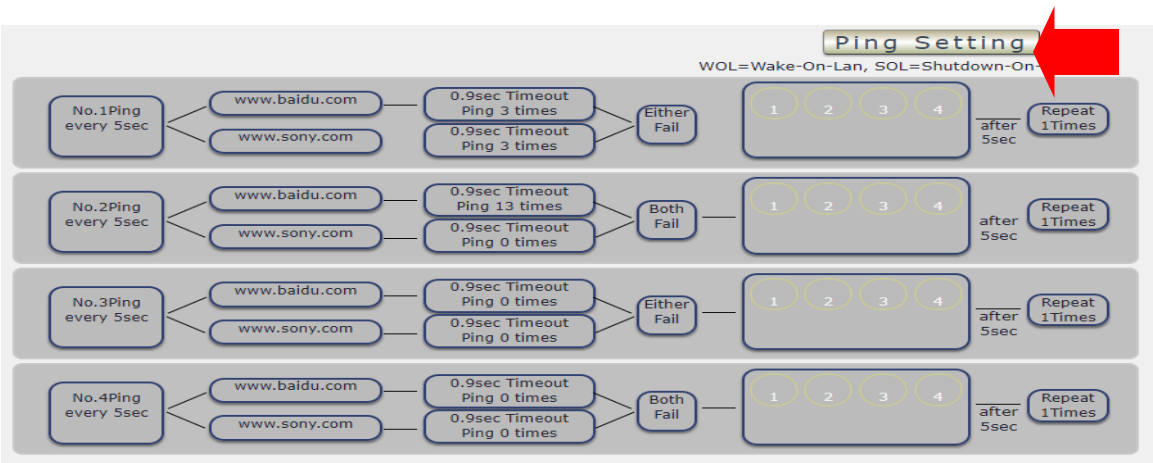
Please select the Rule you want to edit in Scheduler Table. , Change the setting like Duration , Date , Time and Action. Then Press “Apply Np. X Sch “ button to confirm the setting and you will see the page refresh and new setting display in Scheduler list

- **Delete - C**lick “ Delete “ button to remove a rule from the list .

4.2.3 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 4 rules for Ping .**

- **Ping List Page :**



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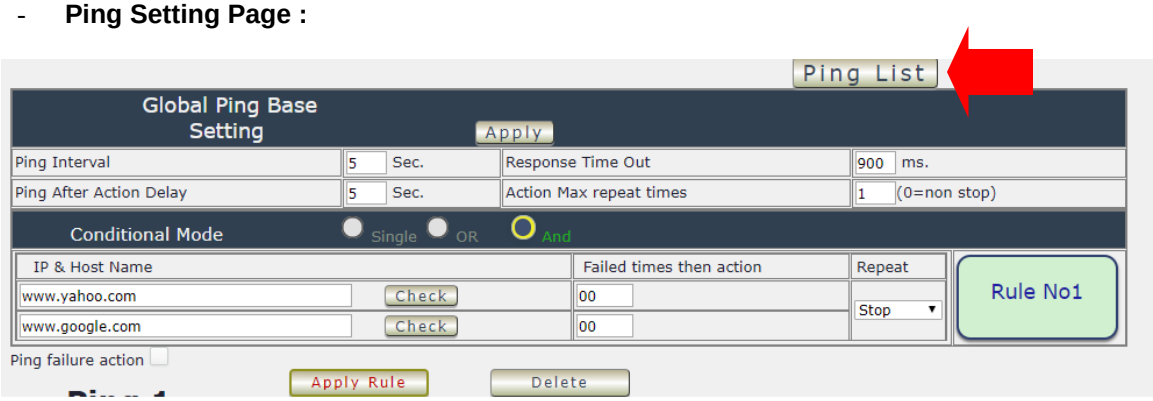
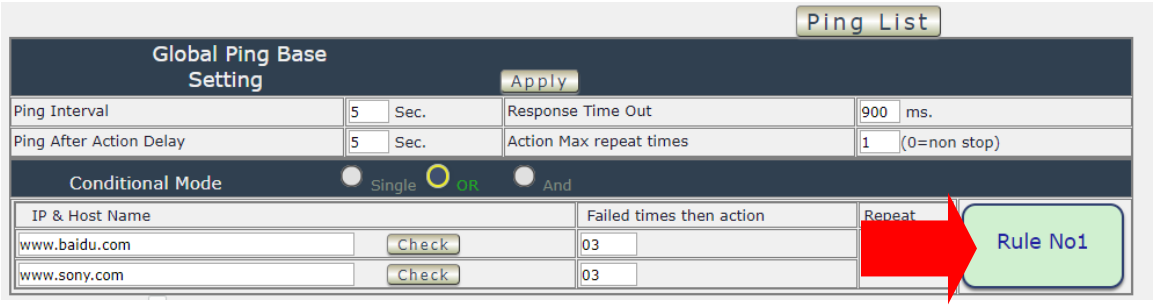
- **Ping Setting Page :**



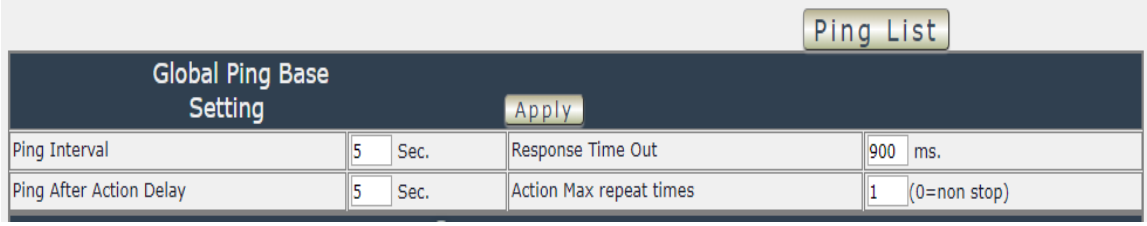
There are 3 sections of the setting area :

1. Setting Rule Numbers :

User can click to select different rules numbers at the right side button " Rule No: X " as following pictures . There are 29 rules available.



2. Ping Base Setting :



- Ping Interval : The number of seconds (Sec.) between each ping .
- Respond Time Out : The number of milliseconds (= ms.) of the device will wait for a response 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 : Set the times to execute the Ping Failure action
  Set 0 means action non stop - Keep action & no limit times.

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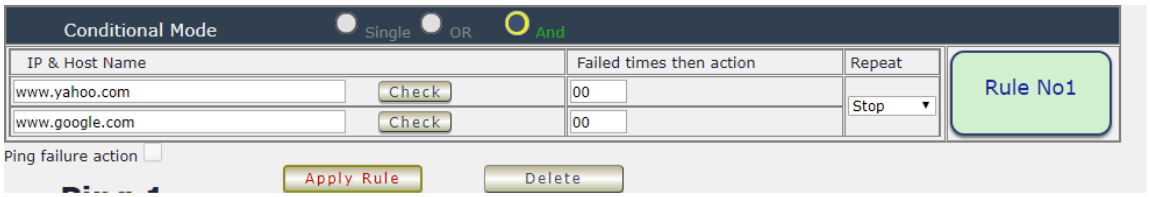
As setting finished , please click " Apply " to save the setting in this area , the webpage will refresh and user can see the final setting result. Ten different set up rules for different port .

3. Other Setting :

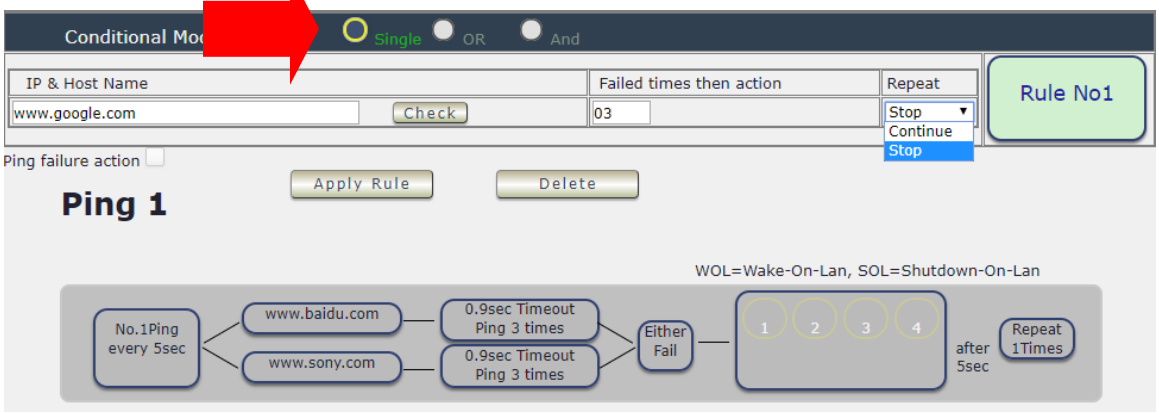
The setting here is for each rule .



- Logic Mode :

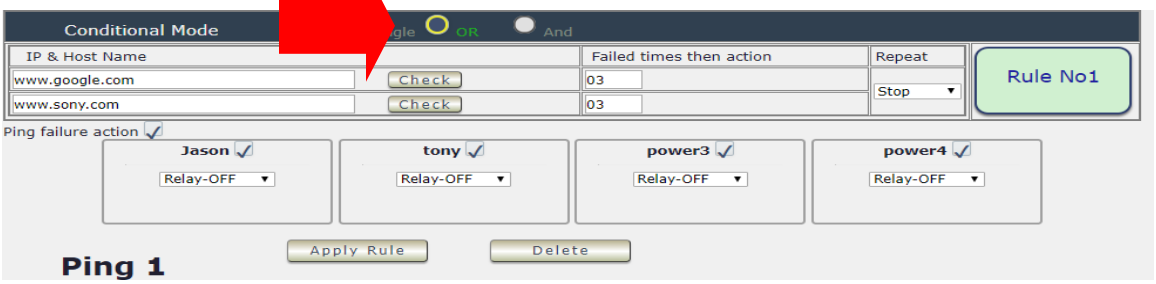
  User can select the action activate by one / two IP Host failure or either one fail
  - Single : Execute Action by one IP Host failure .
  - OR : Execute Action by either one IP Host failure as setting 2 pcs IP Host
  - And : Execute Action by both IP Host failure as setting 2 pcs IP Host

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



OR : 9820 MT will Ping 2 IP address. Either one IP fail times reach to the setting times. Action (ON/OFF/RESET) will be activated .

AND : 9820 MT will Ping 2 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

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(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 then action : Setup the ping failure times for 9820 MT to execute the setup ON/OFF / Reset action of setting .

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

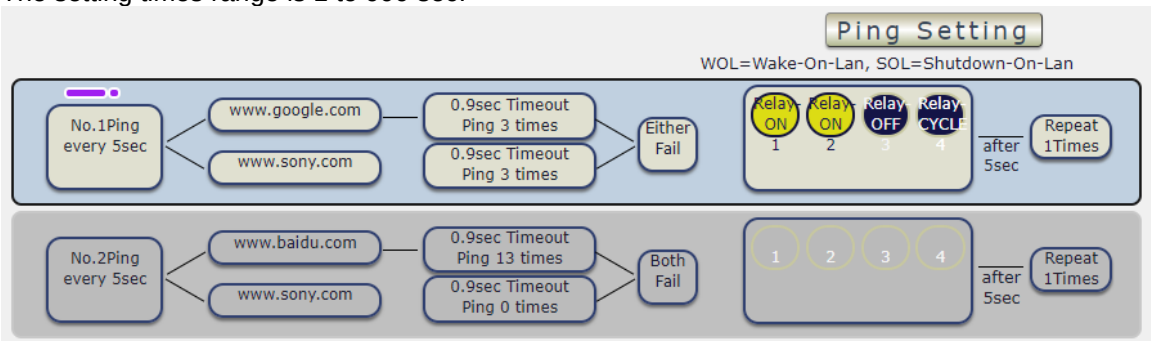
- Enable Ping function : In the selected Rules number , please select the outlet number power to activate as ping fails and then press " Apply Rule Action " button to confirm the setting .

- Ping failure 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.

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

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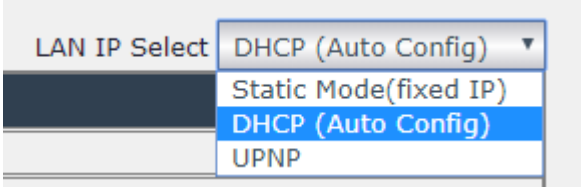
4.3 Network :

There are 3 sections in this port : LAN Network , DNS setting and Port setting

LAN Network Settings :

The network status is connected by ether cable with RJ45 connector . There are 3 network connection way : Static IP / DHCP / UPNP

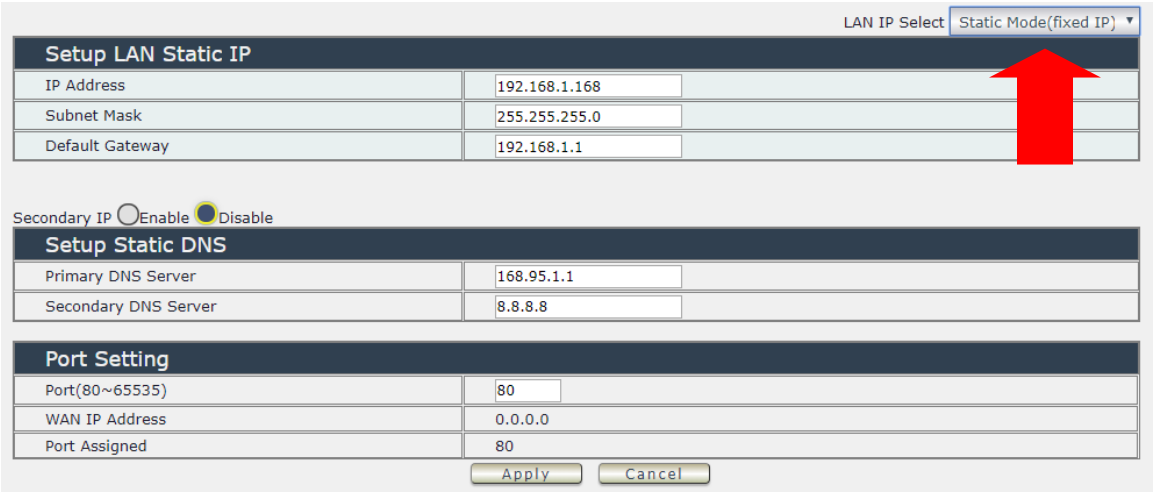


A. STATIC (fixed IP) :

Setup IP address , DNS and Port manually. This allows the 9820 MT to obtain an IP Address automatically from user`s server connected to Internet. Recommended for users who need to control 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 9820 MT to obtain an IP Address automatically from user`s server connected to Internet. Recommended for non- advance users.

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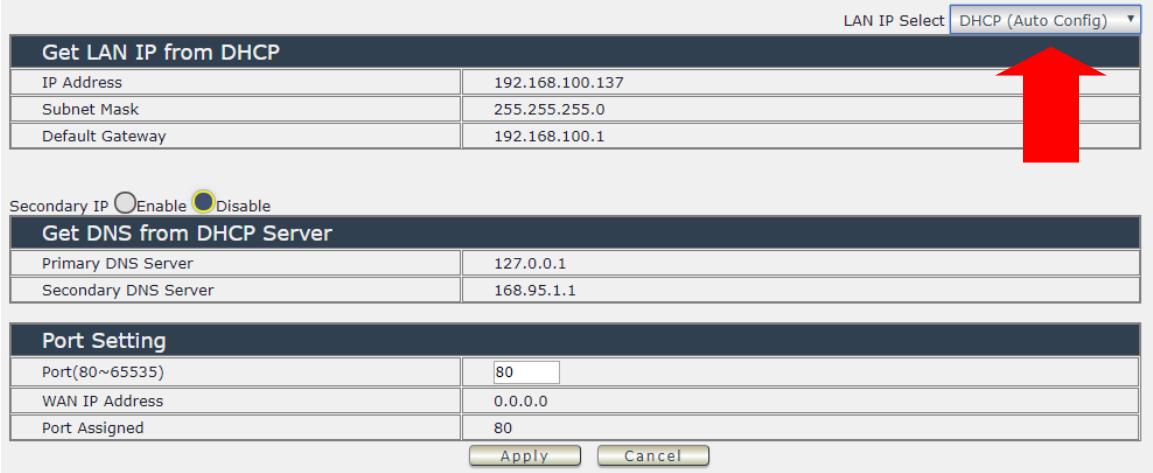
User can only revise the Host Name under DHCP mode. This is also the default setting for fast LAN connection solution.

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

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

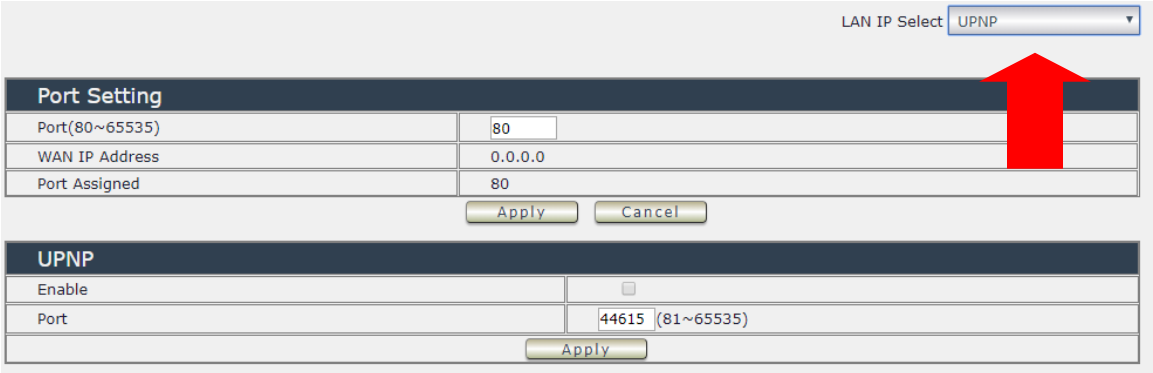
Please do fill up the correct DNS server for sending / receiving email (alarm) .



C. UPNP :

With UPNP function , user can log in webpage through Internet without setting Port forwarding / port mapping in your router . No matter use “ FIX IP “ or “ DHCP” , user can enable this UPNP function .

Notice : It support to pass through one router and may not work as 9820 MT under multiple routers.



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) .

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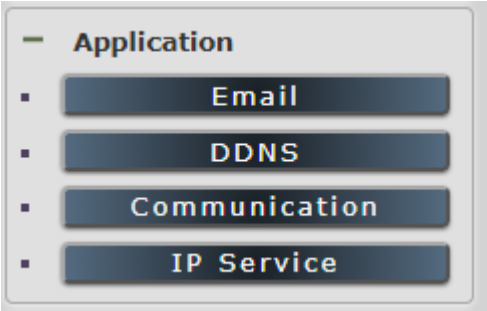
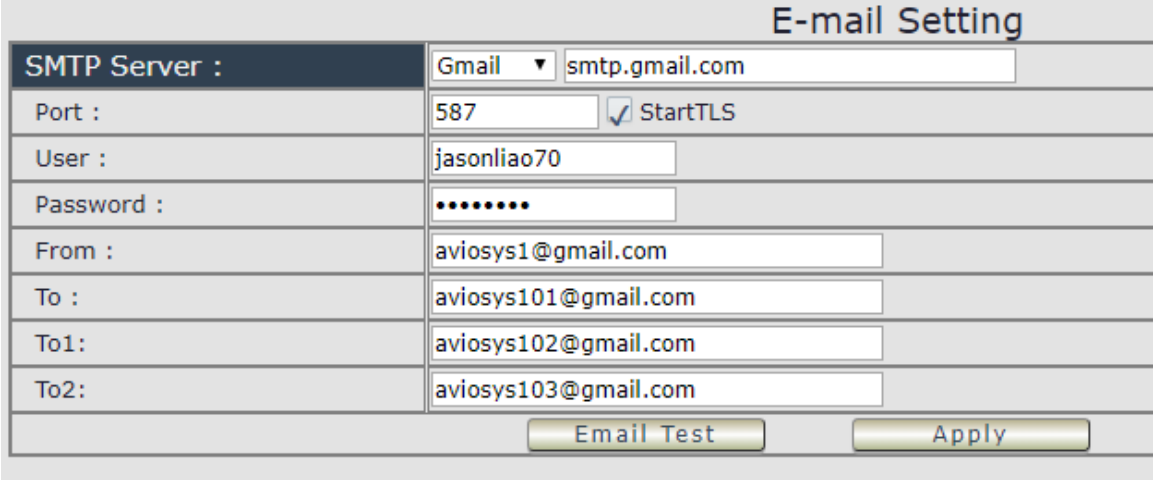
4.4 Application Settings :



4.4.1 Email

There are 2 sections in this part -- E-mail setting and POP3 Control :



- Email Setting :

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

- Receive E-mail with IP information & MAC Address as 9820 MT 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 → DNS setting)

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

- **SMTP Server**: This is the mail server of sender .

If user select @gmail or @hotmail account as SMTP Server , 9820 MT will fill the SSL & Port automatically

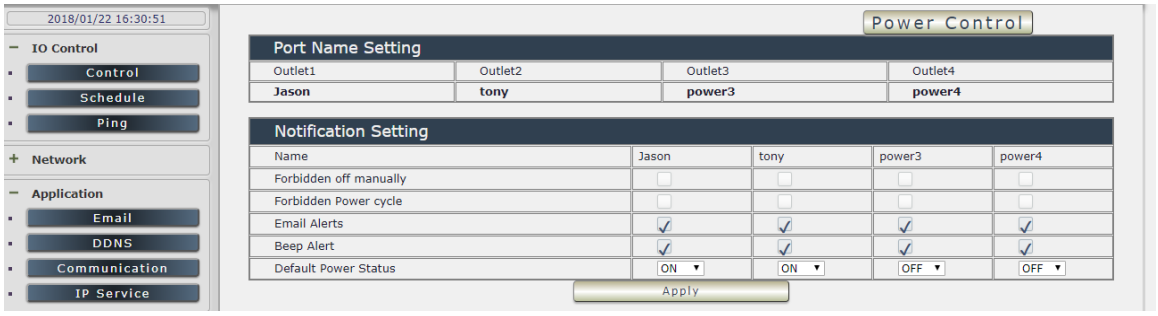
- **Port :** This is the port of SMTP Server. Most common port to send out e-mail is port 25
- **Start TLS :** It depends on the inquire of the email server to enable or disable this inquire . As use Gmail account , please enable this function .
- **User** : Login for the e-mail address . Ex: 9820 MT@gmail.com
- **Password**: Password for the e-mail address. EX : 12345678
- **From :** Mail sender address to send the E-Mail out . Ex.: 9820 MT@gmail.com
- **To** : Mail receiver address to get the E-Mail in Ex.: 9223@hotmail.com

- E-mail test : Can help to check if the e-mail setting works.

- Apply : To store the setting in this section .

For example :

Get Email alarm as outlet changed :



Step 1 : After setup the email setting in 9820 , please press " Apply " button to check if show message " Success "

Step 2 : Press the " Email Test " button to check if show message " Success "

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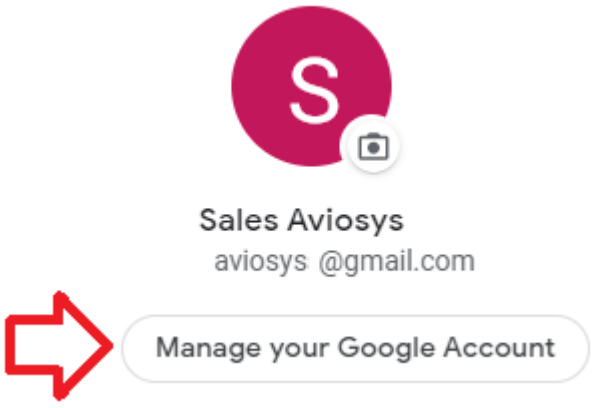
Step 3 : If message show "Fail " , please turn ON the setting in your gmail account - Turn ON the function Less secure app access "

- Procedure : Go to your google account → Security → Turn ON the function " Less Secure appsaccess "

Please refer the following 3 pictures

Go to the management part of gmail account & go to Security section **Turn ON the function " Less Secure app access "**



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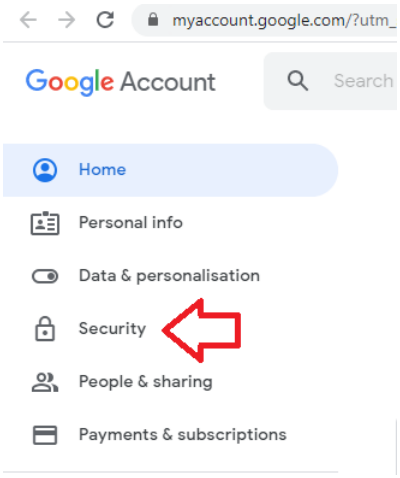

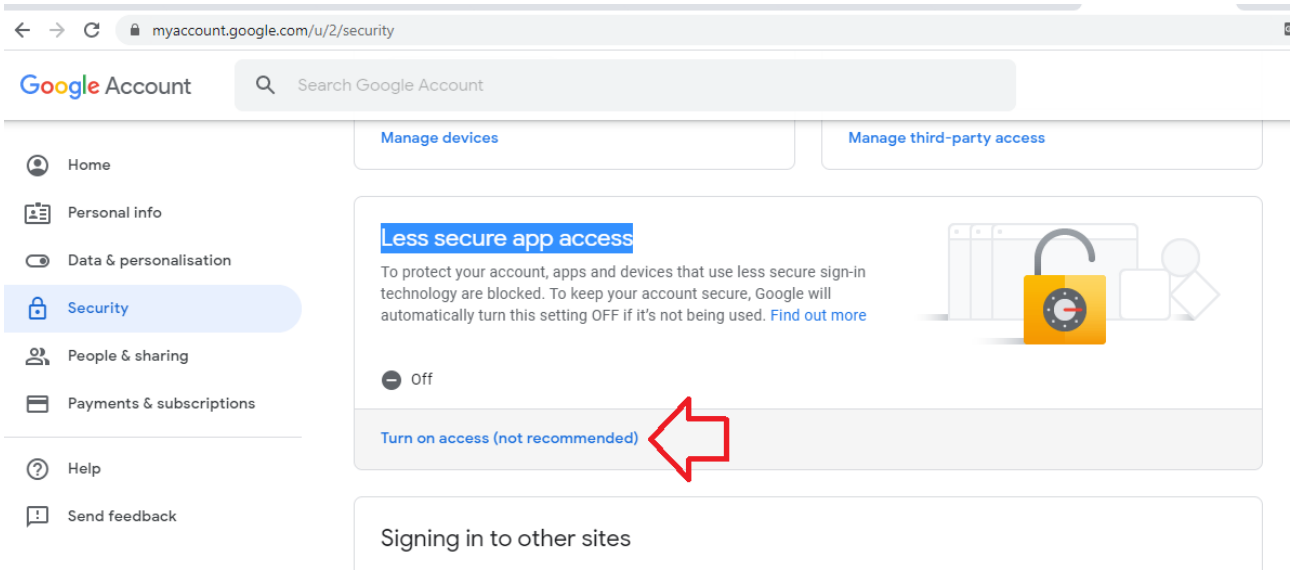

Notice : You will not see the section " Less secure app access " if your gmail account turn ON the function " 2-Step Verification " . Please turn it off as following picture or use another gmail account .

● POP3 Control

User can control each port turn ON or turn OFF by e-mail. The command format is limited .

Please enable the function first .

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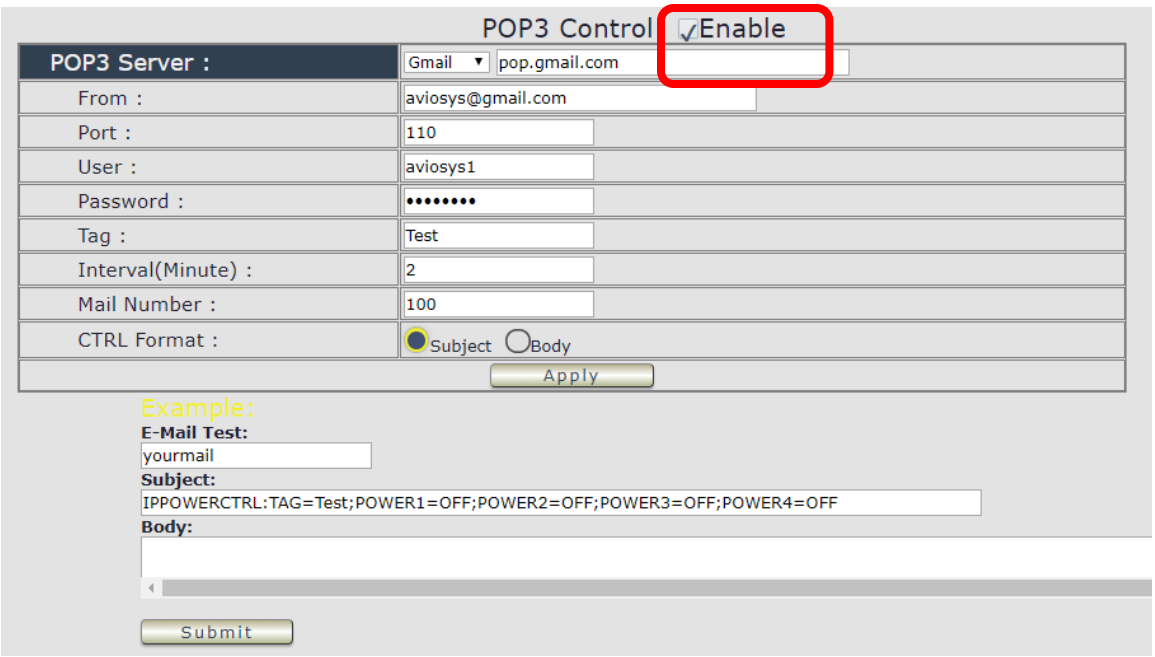

Settings Section :

To set up 9820 MT be controlled by e-mail , user need to know the both **sender`s e-mail address and receiver`s e-mail account Name and Password**.

- **POP3 Server**: This is receiver's mail server
- **From :** Sender's email address . Ex.: aviosys@gmail.com
- **Port :** This is the port of POP3 Server.

If user select @gmail or @hotmail account as SMTP Server , 9820 MT will fill the SSL & Port automatically.

- **User** : Username to login the receiver's e-mail Ex.: aviosys1 or aviosys1@gmail.com
- **Password**: Password for the e-mail address. EX. : 12345678

- **Tag** : User can use any message for 9820 MT to recognize this mail as 9820 MT command mail .

EX.:
As type " Test " in TAG area, the command contents is as following:

IPPOWERCTRL:TAG=Test;POWER1=OFF;POWER2=OFF;POWER3=OFF;POWER4=OFF

- **Interval (minutes) :** The period of time between Send and Receive the command e-mail.

- **Mail Number** : For 9820 MT to search as command mail in the number of your email receiver latest . EX. : setup 20 that 9820 MT will check the latest 20pcs email in receivers mail box for the 9820 MT command mail

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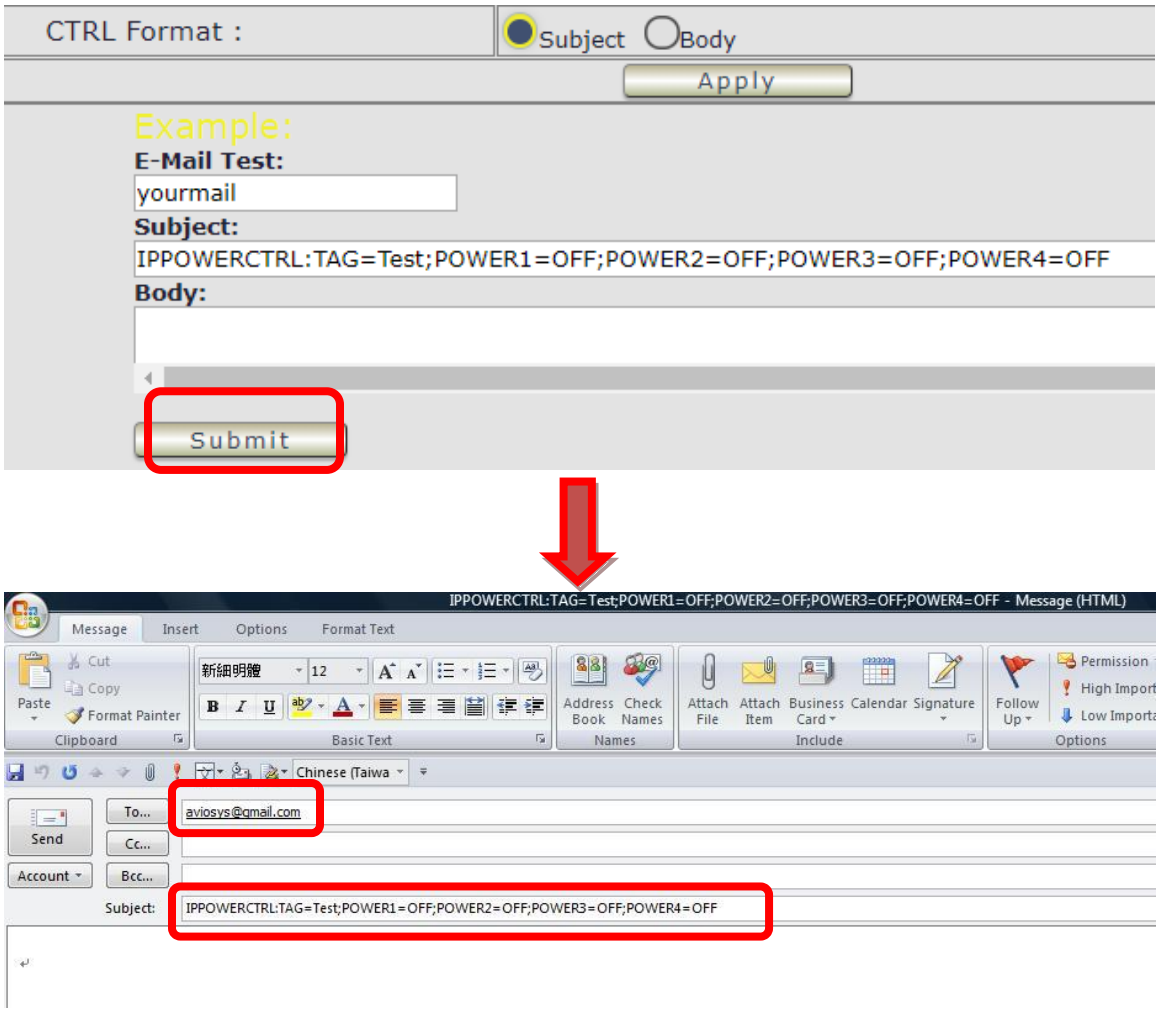
- **CTRL format** : Control format by subject or by body (e-mail contents)

For example : Use Gmail as sender and receiver

- Sender`s e-mail : 123@gmail.com
- Username to log in sender`s @gmail : 123@gmail.com or abc@def.com
- Password to log in sender`s @gmail : 12345678

Command format & Example :

User can get the e-mail command contents in the section . And execute an e-mail as press “Submit “ if user has e-mail setting in the PC as following :



Command format :

IPPOWERCTRL:TAG=Test;POWER1=OFF;POWER2=OFF;POWER3=OFF;POWER4=OFF

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There are 2 section of the command

1. IPPOWERCTRL:TAG=Test

This is command part. Beside the tag message part (like Test on above example) user can change in setting section , the other command must be **CAPITAL** and are fixed content .

2. ;POWER1=OFF;POWER2=OFF;POWER3=OFF;POWER4=OFF

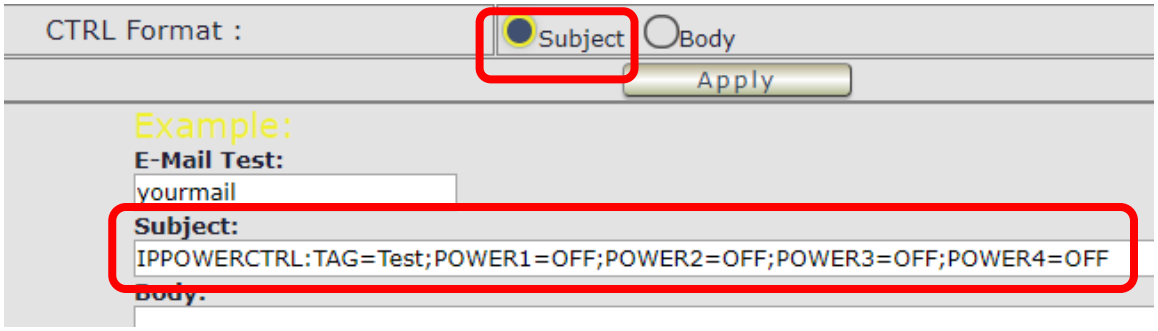
This is to set the outlet number (POWER1=) and action (ON/OFF) , user can only control 1~4 port ON/OFF by e-mail. Do each outlet command

EX.: Put " 14ON" in tag section and place the command as following : (at subject or body depends one user's setting) :

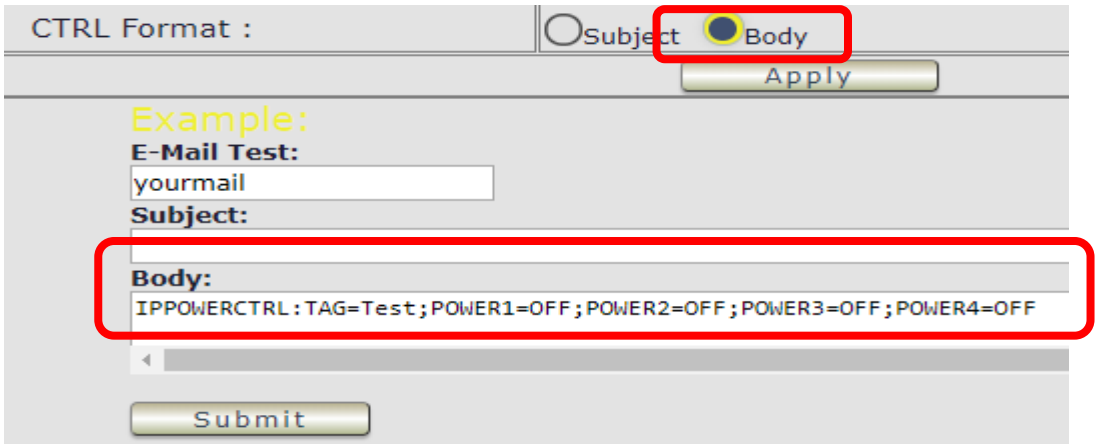
IPPOWERCTRL:TAG=14ON;POWER1=OFF;POWER4=ON

E-mail example :

- Execute e-mail command by " Subject "



- Execute e-mail command by " Body "



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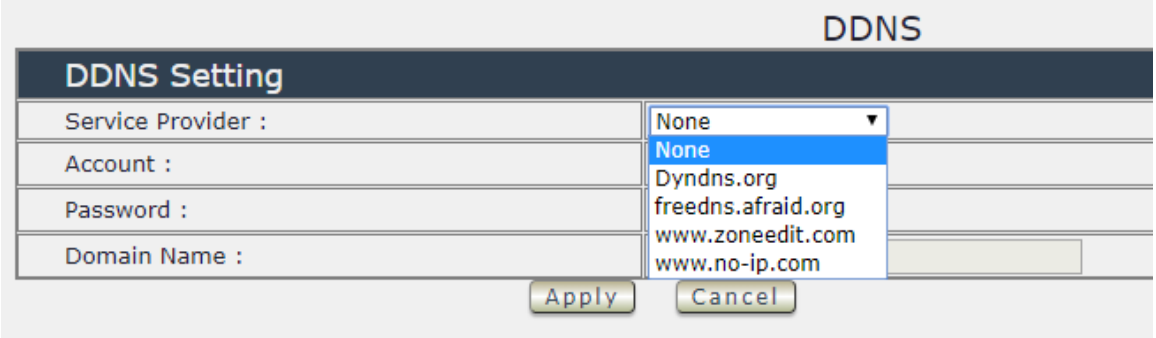
4.4.2 DDNS

The DDNS section allows user to setup the 9820 MT with a DDNS server (i.e. www.dyndns.com). After the server has been setup correctly, enter the necessary information into the 9820 MT DDNS settings.

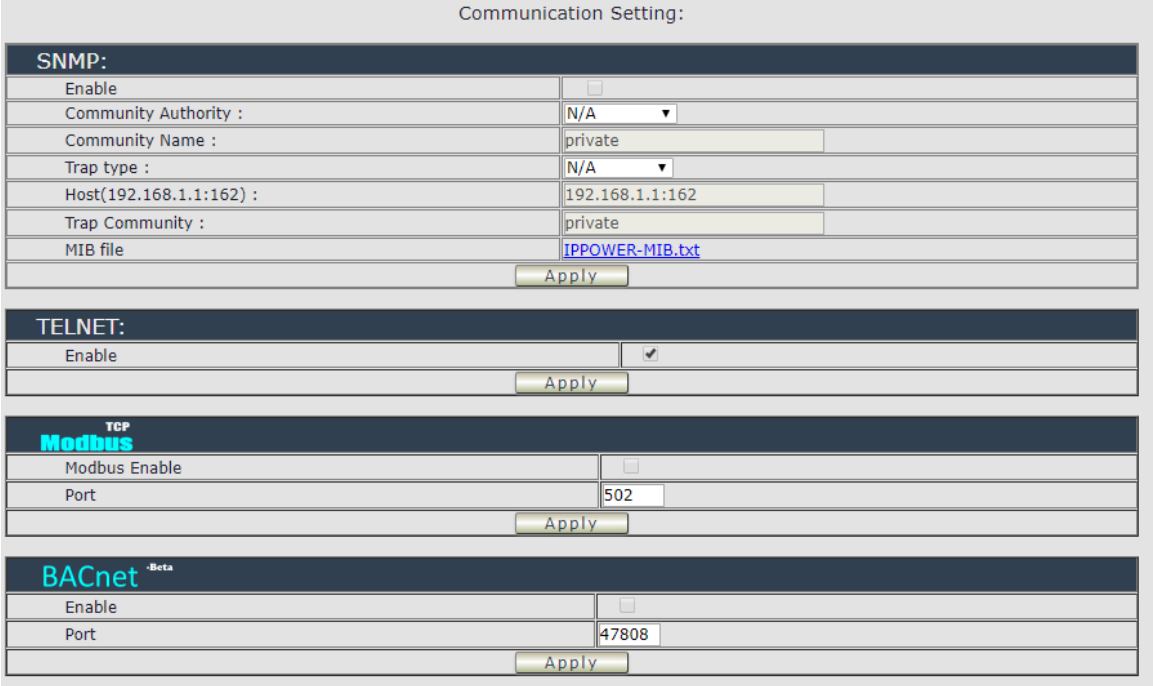
Note : The DNS server will have extra change as apply new account.



Account : the Username / account name of DDNS account
Password : the Password of DDNS account
Domain name : The DDNS name user apply . Ex.: abc.dyndns.org

4.4.3 Communication

9820 MT supports SNMP, Telnet , Modbus TCP and BACnet TCP



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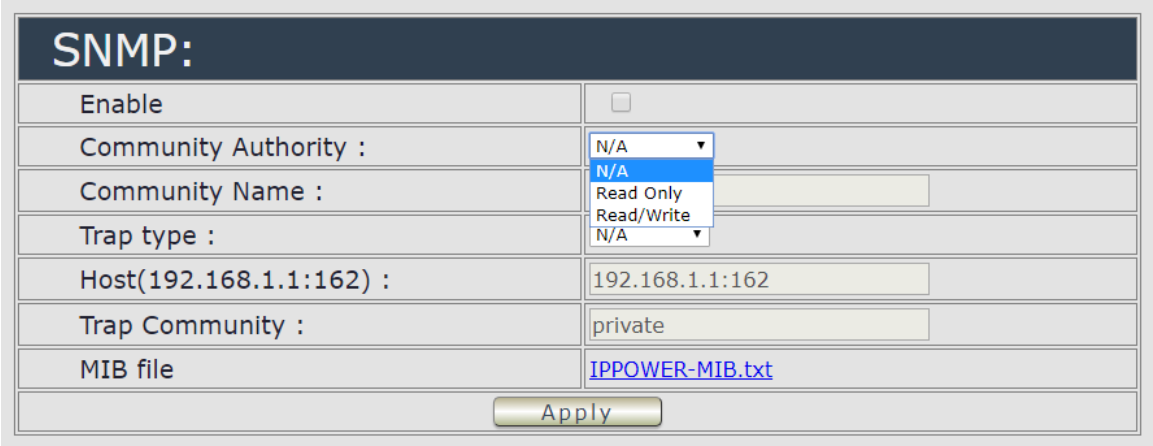
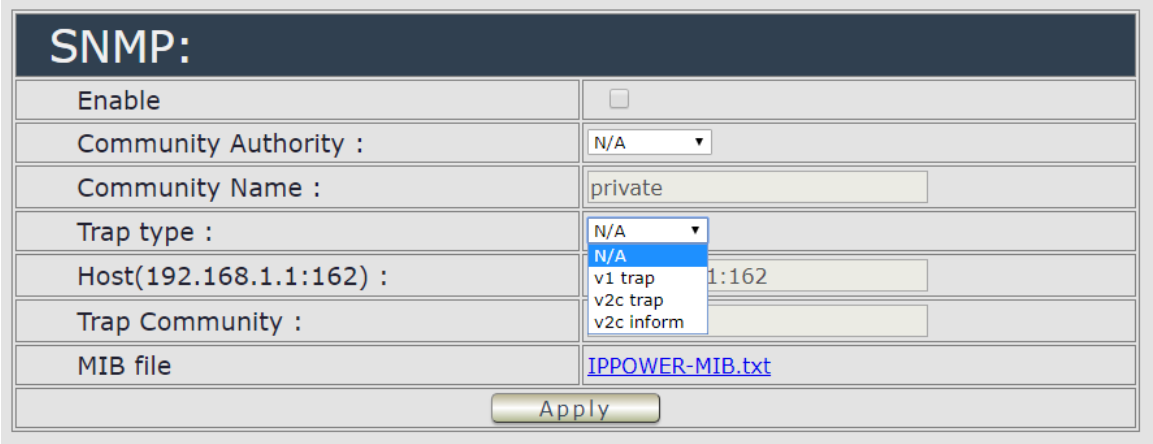
A.SNMP

This section is for development of system integrator who is familiar with SNMP knowledge.
In community Authority , user can select “ Read only” or “Read / Write”



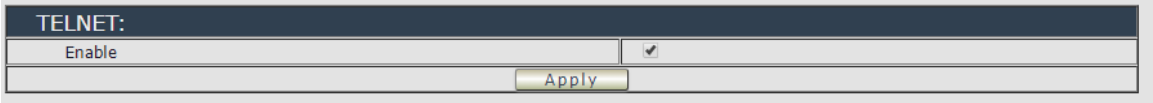
In “ Trap “ type ,user can select “ v1 trap “ , “ v2c trap “ or “ v2c inform”



In MIB file section , user can get MIB information.

B.Telnet

In This section is for development of system integrator who is familiar with Telnet to enable /disable the



Please enable the telnet function in “Application “ → “ Communication “

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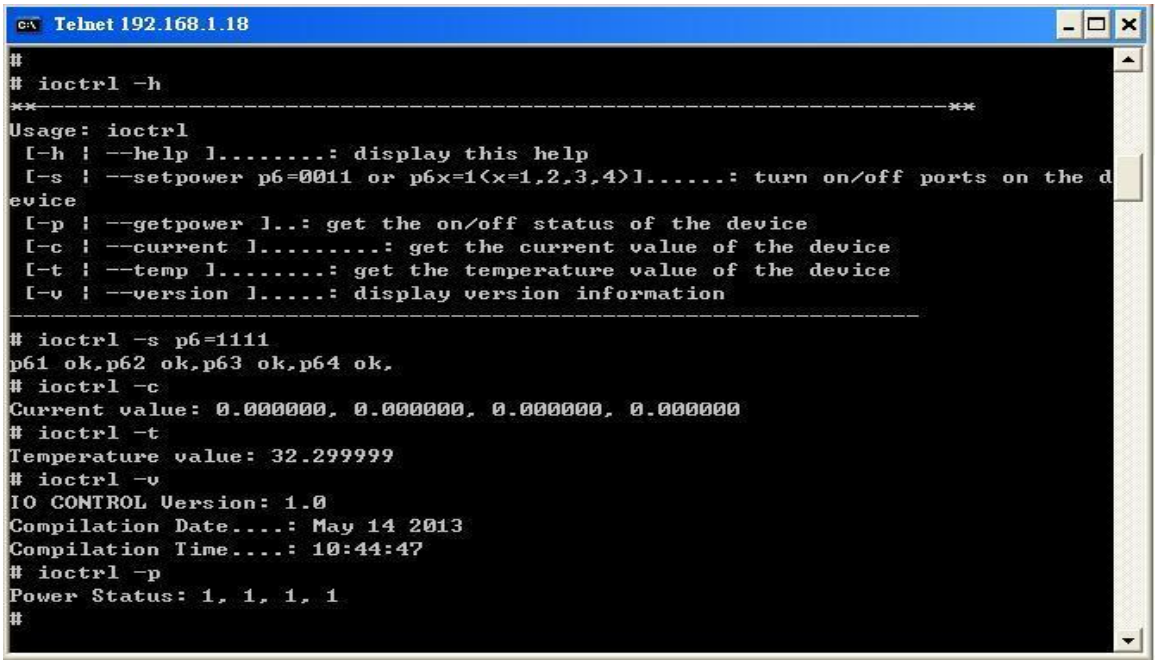
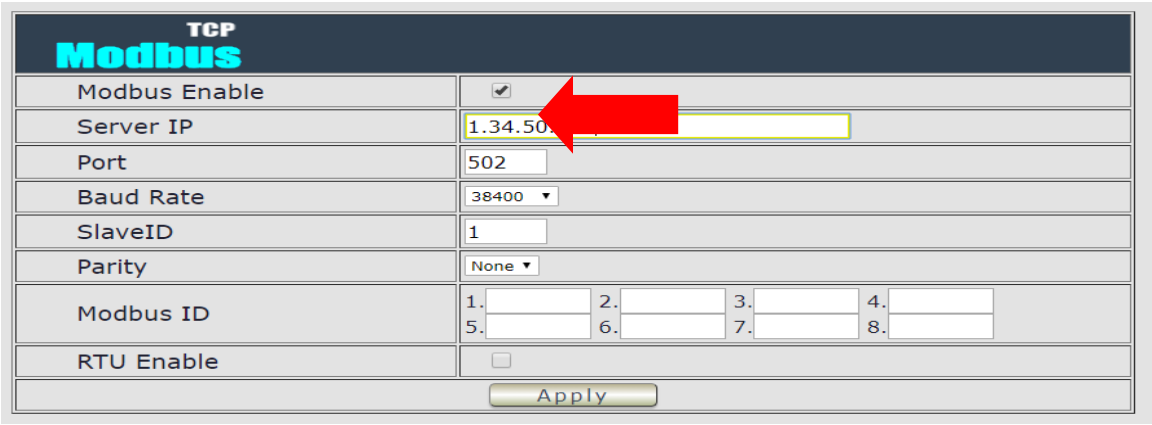


C.Modbus TCP

A. **Modbus ：**We supply 3 models of ModBus control

C-1 ModBUS TCP ： Just Enable or disable this function



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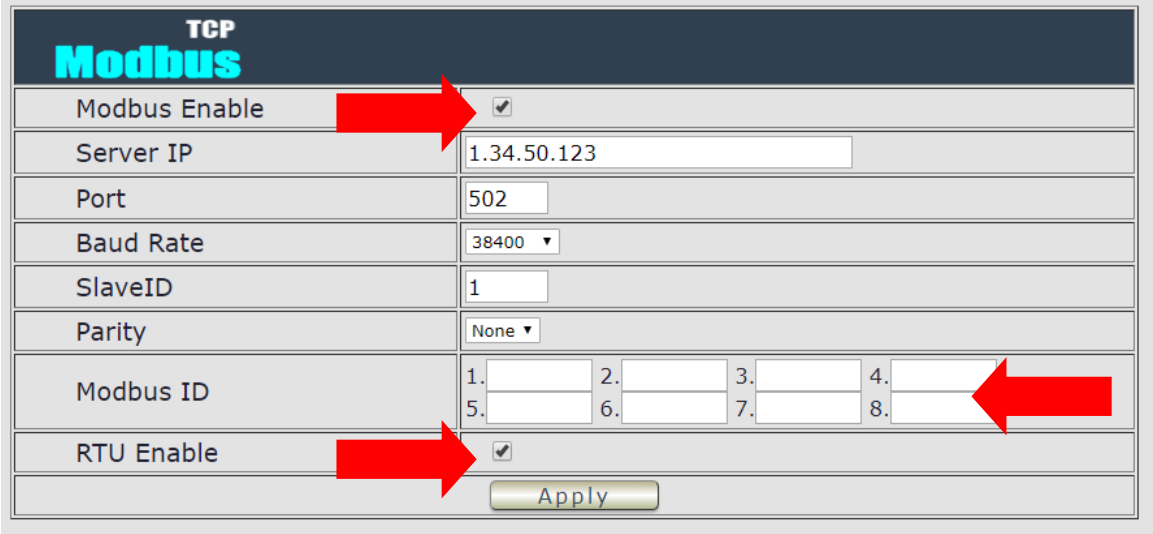
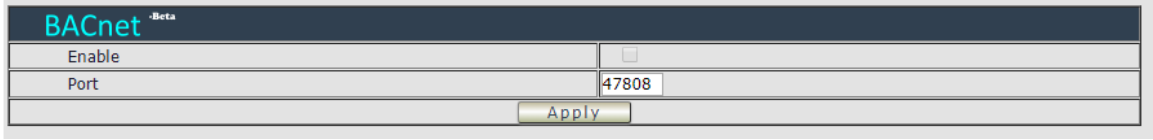
C-2 Modbus Gate way model : Need to Enable Modbus , Enable RTU & fill Modbus ID .

C-3 Modbus RTU : Need to Enable Modbus , Enable RTU & fill Modbus ID .



D.BACnet TCP

In this section is for development of system integrator who is familiar with Telnet to enable / disable the function and to setup it`s port .



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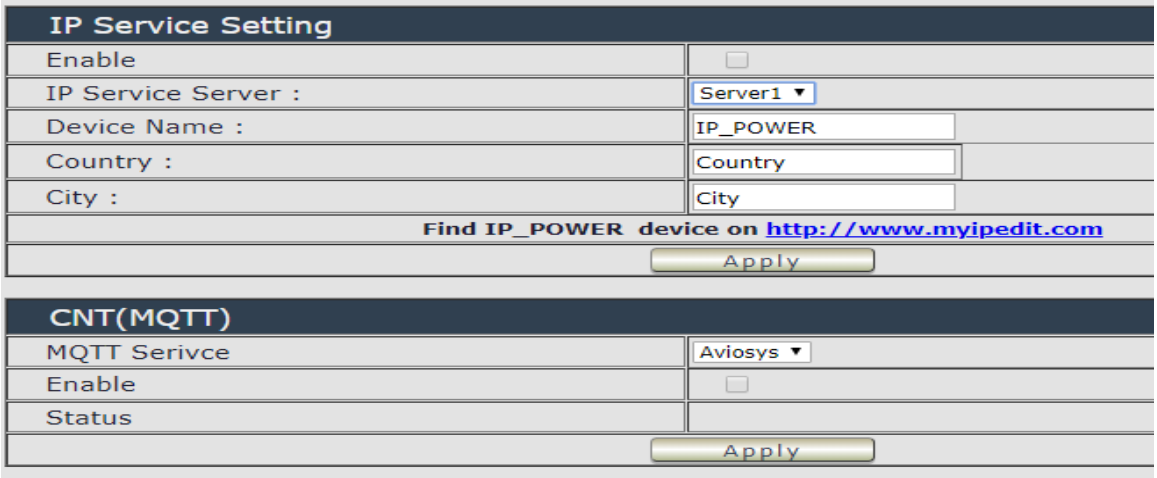
4.4.4. IP SERVICE

In this section , user can setup

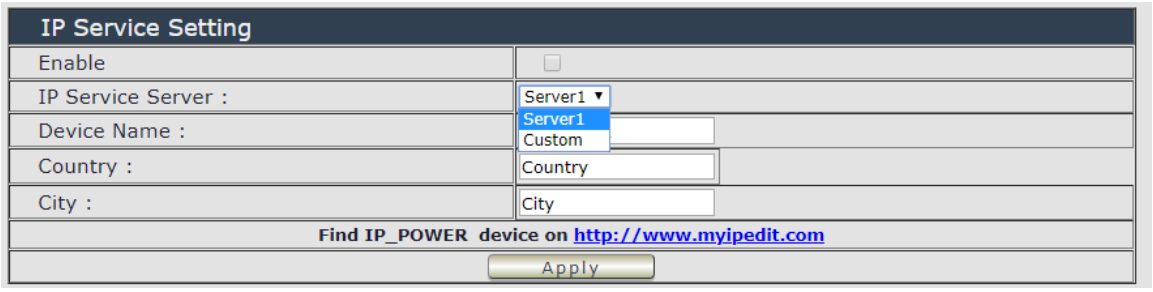
A. IP Server & CNT (Cross Network Technology) ,
B. CNT (MQTT)



A. IP Service & CNT Setting :

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

IP Service Server: Allows user can find user of 9820 MT on the internet without having to remember long 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 : use our server or custom server .
- Device name , Country & City :

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

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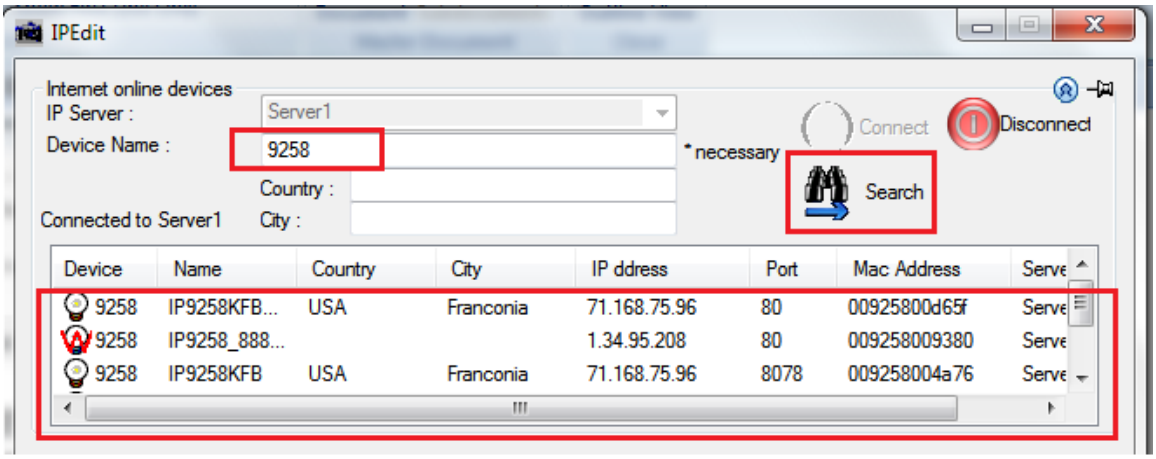
This allows the device to be accessed easily on the Internet, user no longer have to Port Forwarding , user device to be able to use it. Only some devices are CNT compatible.

Please refer page #14 for the function of IP Server



B. CNT (MQTT) –

For developing only. 9820 MT supports MQTT fucniton. Please contact with your distributor for the details if you would like to develop own system.

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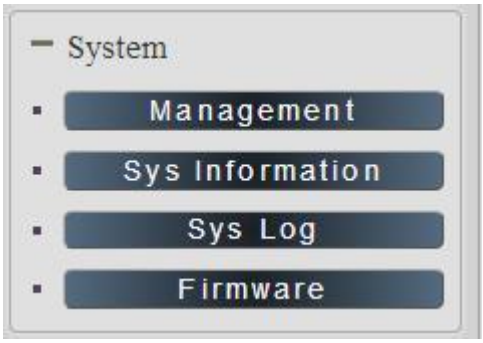
4.5 System Setting :



4.5.1 Management

In this section there are 5 settings: Administrator setting, Langrage Settings , NTP settings , Import Configuration files and System Reset .

Administrator setting

In this section allows user to change password for 3 different authorization level . The account name and password can be changed ， but each Authorities only support one Account name & one password.

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1. Administrator (Admin) : The *Administrator* has the authority to create other users, remove users, and control the device. 9820 MT will ask to log in again if change the Default Setting here.

2. Operator : The operator can only control the setting of " IO Control " section but can not see other page of 9820 MT .

3.Viewer: The viewer can only see the " IO Control " section , but can not see other page of 9820 MT.

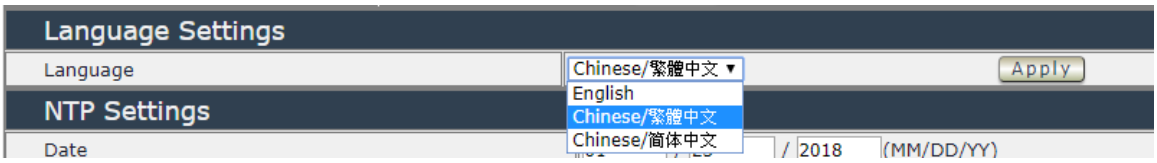
Default Setting of the Authorities :

Authority	**Account name**	**Password**
Admin	Admin	12345678
Operator	user	user
Viewer	guest	guest
Note	Please amend the password as number or English character from 1 to 8 characters. **Do not use special symbol like " " ; : ~ ! @ # $ % ^ & * ( )**	

Please click "Apply " button after change the account name / password

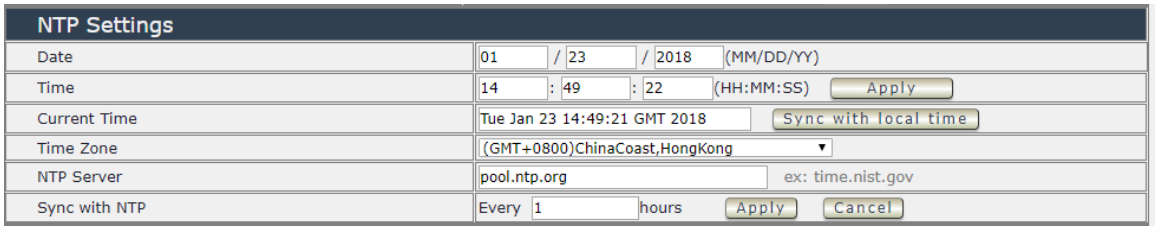
Langrage Settings

There are 3 language option of 9820 MT .The default langrage is English.
The other two languages are "Traditional Chinese " and " Simple Chinese " .



NTP setting

In this section , user can setup the date , time , current time , time zone , NTP server and sync with NTP to get the time synchronization .



SYNC with NTP : User can setup the time gap (1~300 hours) for 9820 MT to check the time with the NET server .

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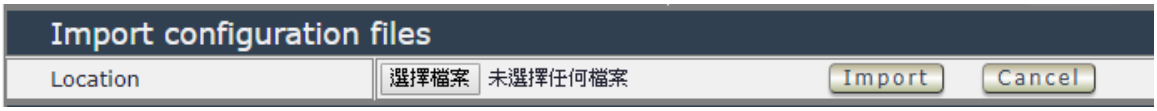
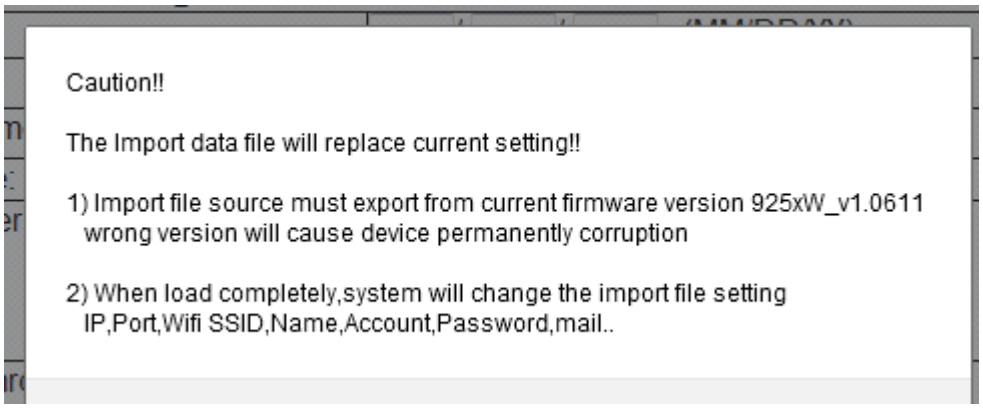
Import configuration file

To setup multiple with same setting , user can import the settings of other 9820 MT from a " DAT " file which is exported form another 9820 MT . By import this file to other 9820 MT device and shorten the setup time .



As press " Import ", there is caution message show as following :



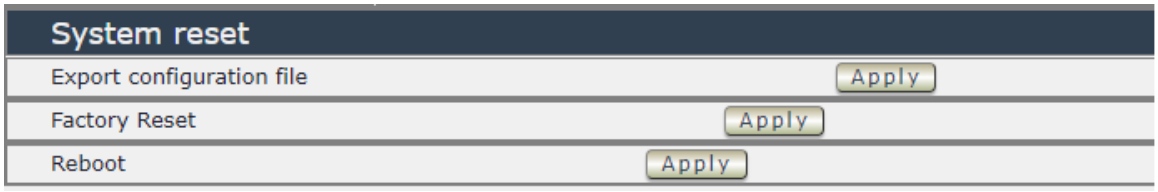
Before click " Ok " to import , please do read following notice :

- Do NOT import DAT file which is not export form 9820 MT. The warranty will be invalided if any wrongdoing from " Import " .
- Please do Import the file in LAN / Ethernet . To avoid Import fail , please do not Import file via Internet

System Information

User can click one button to set back the setting to default or restart the 9820 MT without device nearby user side.

Note : The factory default setting of 9820 MT IP is assigned by DHCP. It will change the IP if load factory defaults .



-

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- Export configuration file : Export the settings into DAT file for import to other 9820 MT
- Factory Reset : set back to factory default .
- Reboot : 9820 MT device power reboot

4.5.2 System Information

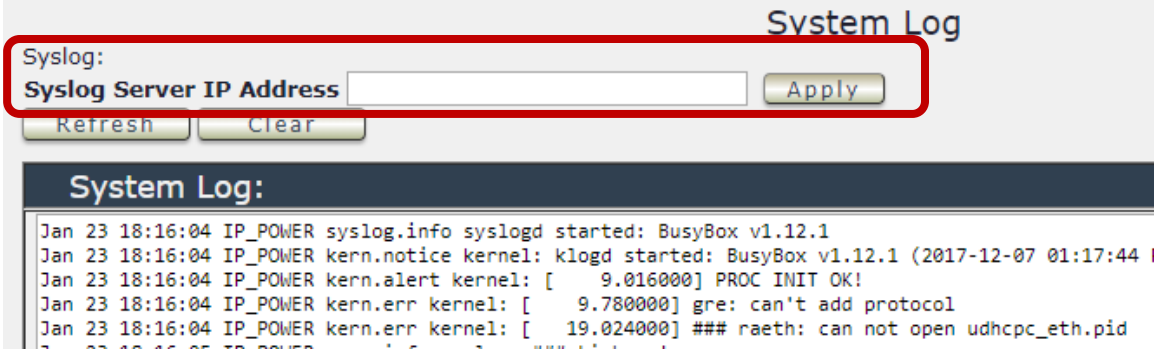
User can get the system information here .

System Information

System			
System Up Time	16 hours, 7 mins, 58 secs	MAC Address	00:76:50:00:00:FC
Firmware Version	v1.00_291	Hardware Version	(Jan 10 2018)
WAN			
WAN IP Address	0.0.0.0	Ethernet Port	80
Default Gateway	192.168.100.1	Internet Port	80
Primary DNS	127.0.0.1	Secondary DNS	168.95.1.1
LAN			
Connected Type		DHCP	
Local IP Address		192.168.100.137	
Local Netmask		255.255.255.0	
Other Information			
SNMP		Disable	
ModBusTCP		Disable	
BacnetIP		Disable	
Telnet		Enable	
UPNP		Disable	
IPSERVICE & CNT		Disable	
CNT2		Disable	

4.5.3 System Log

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



Please click the IP and save by click " Apply"

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4.5.4 Firmware

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

There are two sections ： Bootloader & Firmware

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

It takes about 1 minute to upload upgrade flash and be patient please. Caution! A corrupted image will hang up the system.

To update the 9820 MT , 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, 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) Support update under 32bit Web Browser (32 bit version only) like IE, Google Chrome, .
   Do not use browser at 64 bit version
9) Please change the PORT as 80
10) **Reboot and Do the Hardware Reset** (keep pressing RESET button for 10secs) after update successfully.
11) **Clear the Cookies from the temporary file of PC** to avoid get the old webpage .

Please also update the notice in webpage before update :

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5.Other ways to control

Besides webpahe control ,there are several ways to control the outlets : by HTTPS/CGI command or by Telnet . 9820 MT also support SNMP (MIB) , Mudbus /TCP and BACnet /TCP .

Please check page #41 to check and enable the function .

5.1 CGI HTTP Commands

CGI Commands allow you to easily integrate the 9820 MT with other systems and programs. Please read 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 : admin. Password : 12345678

1.1 http://admin:12345678@192.168.1.18/set.cmd?cmd=getpower
1.2 http://192.168.1.18/set.cmd?user=admin+pass=12345678+cmd=getpower
The above 2 way also 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?cmd=getversion

System return : CGI Command : Data follows
Version=9258W_N_v1.0.0.1

2.2 To get MACaddress：getmac
http://192.168.1.18/set.cmd?cmd=getmac

System return： CGI Command : Data follows
mac=00929000008F

2.3 To get the status of power on/ off： getpower
http://192.168.1.18/set.cmd?cmd=getpower

System return：
CGI Command : Data follows
p61=0, p62=0, p63=0, p64=0
P61 to P64 means : POWER1 to POWER4

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2.4 To get Current ： getcurrent
http://192.168.1.18/set.cmd?cmd=getcurrent
System return：
CGI Command : Data follows
c61=0.000000, c62=0.000000, c63=0.000000, c64=0.000000, c65=0.000000,
c66=0.000000, c67=0.000000, c68=0.000000, temp=22.700001
C61 to C68 means 8 currents ，temp is temperature （as Celsius ）

2.5 To get temperature （Celsius）: gettemp
http://192.168.1.18/set.cmd?cmd=gettemp

System return：
CGI Command : Data follows
temperature=22.700001

2.6 To set the power on / off ：setpower+p6x=0 or 1
p6x=0 means off，p6x=1means ON，x can be 1 to 4 (power1 to power 4)
Example : Turn on POWER1 and POWER2 and turn off POWER3：
http://192.168.1.18/set.cmd?cmd=setpower+p61=0+p62=0+p63=0+p64=0+p65=1+p66=1+p67=1+p68=1
System return：
CGI Command : Data follows
p61=0,p62=0,p63=0,p64=0,p65=1,p66=1,p67=1,p68=1

2.7 Setup power to reboot as RESET：setpowercycle+ p6x=delayTime
X can be 1to 4 (power 1 to power 4) ，；dealyTime mean the time (second) waiting for reset

For example :
http://192.168.1.18/set.cmd?cmd=setpowercycle+p61=5+p62=2+p63=4+p64=5+p65=2+p66=4+p67=5+p68=2

System return：
CGI Command : Data follows
p61 cycle ok,p62 cycle ok,p63 cycle ok,p64 cycle okp65 cycle okp66 cycle okp67 cycle okp68 cycle ok

2.8 To get voltage: getvoltage
http://192.168.1.18/set.cmd?cmd=getvoltage

System return：
CGI Command : Data follows
voltage=108.00

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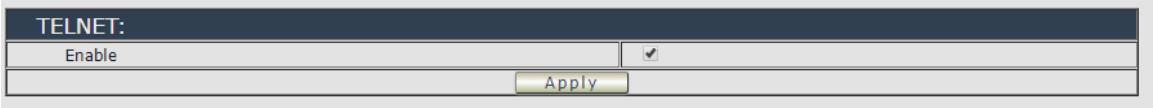
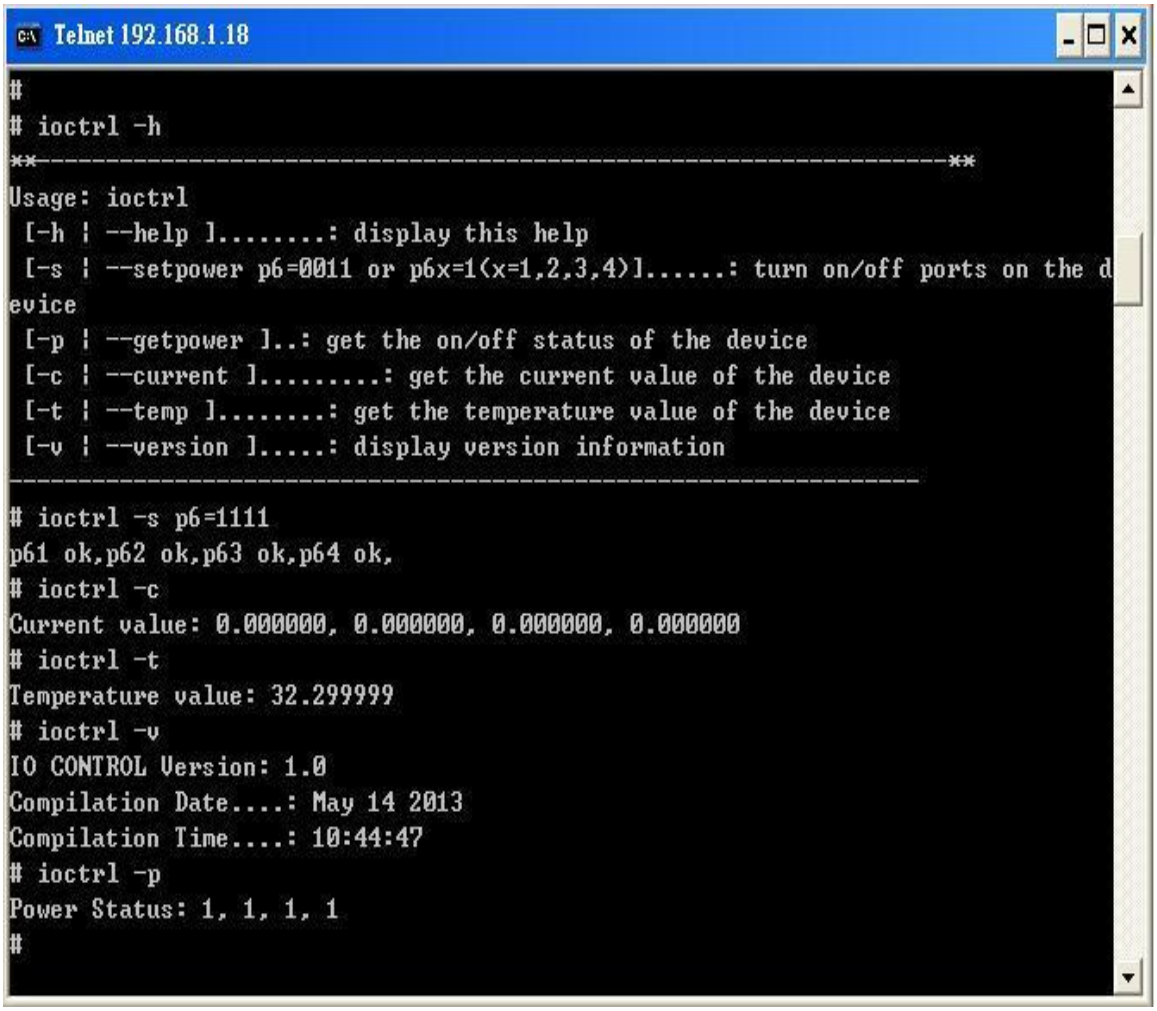
5.2 Telnet Control

Please enable the telnet function in “Application “ → “ Communication “

Or Check page #41 to check and enable the function .





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6.FAQ :

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

Ans.: Please check the PC you use is under same LAN/ network / segment as 9820 MT . Please turn off some Anti-Virus / online chatting software .

If there are morn than 1 network card , include dynamic network card , please disable one and make sure the one you selected is under the same segment with IP9820 MT.

Please refer the following possible parts for this 9820 MT not been searched by IPEDIT

- Boot up successfully : Please reboot the 9820 MT and check if there are 1 short beep after 3 seconds . This beep means the device boot up successfully . If not , the device may have issue.

- Network card : Please check if there are morn that two network card – include wire / wireless / dynamic - in the PC which used IPEIT software . IPEDIT only support single network PC , please disable the other network connection / functions.

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

- Power : If there is no power go to 9820 MT , please check the fuse part . There will be no power for 9258 if the fuse buttons is pup up - not easy/flexible to press as it was – by over loading for long time , please press the fuse back and the power will go to 9258 to boot up .

- Connection : Please make sure that the 9820 MT 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 .

- **If connect to PC directly or through HUB –** there is no DHCP assigned IP to 9820MT , please remove the network cable and the power cord of 9820MT . Connect power cord to 980MT first , wait for 1 minutes to get the the beep of boot up , then connect the network cable to 980MT .Then the IP will go to 192.168.1.168 **(Page #10)**

Q2 : 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 # 39 to **Turn ON the function " Less Secure app access " in Gmail setting .**

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Q4: How can I reset to default:

Ans : Keep pressing the button of “RESET for 10 seconds at least

To reset to original manufacture settings : press the reset button with a sharpen pin for 10 seconds then RELEASE. There will be 3 beeps sound which means reset start and 9820 MT will be rebooted itself -there is one beep after reboot) and most information go back to default setting (LAN IP).

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