IP9825

Ethernet-based Power Controller

User Manual



Version: V1.01

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IMPORTANT NOTICE

- * The product was designed for indoor use, we carry no responsibility for possible damages caused by outdoor use, especially in the rain
- * 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 .
- * Please contact the dealer If IP Power 9825 is not working properly.
- * Warning: Any changes made to this equipment without permission may cause damages to the device! .

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1. Introduction

1.1 Overview

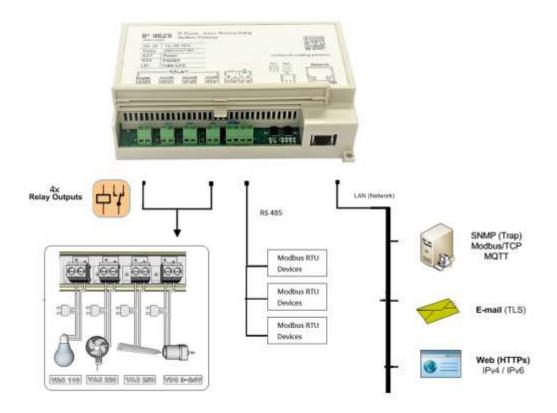
Ethernet-based Data Acquisition and Power Control Module / Ethernet Peripheral Digit Output controller

The IP9825 is a cost effective solution for monitoring and control through network. The module provide Relay for power control module and embedded webserver for a wide application. 9825 Series also provides an excellent web server and complete network and industry standard protocols. It is easily integrated with existing system and play a high performance network control.

With **latching type relay**, with RS485 interface to be MODBUS Gateway – 9825 is a stable and powerful bridge of Modbus /TCP Server on network and the Modbus devices

Please refer the following picture for the overview of IP9825

IP9825



1.2 Main Features

1.2.1 Hardware Features

	ltem	Description	
1	4 Latch Type Relay	Output Channels 4 Form A, Low power dispassion,	
	16A/250V (latching relay)	Lower spike, no heat and more durable!	
2	Thermal sensor	Thermal: ±3°C from -20°C to +100°C	
3	RS485 bus	Receive/send RS485 message to internet	
4	Antenna (option)	Option to wireless LAN (FCC certificated only)	
5		 On board Beeper sound notification. 	
	Notification	2. LED I/O indication	
		3. Network notification for Mail / SNMP / Syslog	
6	Protection	Power Reversal Protection	
		Detect self watch dog timeout reboot.	
		Ping network failure action	

1.2.2 Firmware feature

	ltem	Description	
1	Network	Web server, UPNP, DDNS & Telnet Modbus to Modbus/TCP gateway NTP server & SMTP server Support most Ethernet protocol: DHCP, UDP/TCP/IP, HTTP	
2	Security	SSL3.0. , HTTPS, SNMP V2. SMTP (Gmail , hotmail) Web server provide 3 levels authentication: Administrator, Operator, Guest Base64 password encrypt	
3	Event, Alarm Notification	SMTP mail notification. & Syslog server notify Ping failure event action. & Scheduler event action I/O level change & Thermal, Frequency Change	
4	SDK and Industrious Protocol	Provide HTTP CGI command , SNMP V2 & POP3 Mail control , Modbus/TCP & Bacnet / TCP.	
5	IOT/ Device-to-Cloud Architecture	CNT (Aviosys server) Standard MQTT (Message Queue Telemetry Transport) protocol - Apply on Amazon, Baidu, Alibaba available	
6	Windows AP	IP Power center (manager and control all Aviosys product) IPEdit (local/internet search) & www.myipedit.com (internet search)	

7	Mobile APP	IPPower+(iOS) & IPPower(Android)
8	Wireless LAN(Option)	(FCC certificated only, default disable) AP client mode support (extend wireless LAN range) & WPS

1.2-1 Ethernet I/O control board, Modbus TCP/IP & BacNet TCP/IP

IP9825 is a module with embedded webserver and based on standard ethernet networking 10/100 Mbps Ethernet and support popular Modbus /TCP or and BacNet /TCP protocols over TCP/IP for data connection .

1.3 Product Specification

1.3.1 Basic

- Network LAN 10/100Base-T(X)
- Power Input: 11V to 30 VDC (Reversal Protection)
- Power Consumption: 1.2W (100mA@ 12 VDC)
- Connectors 1 x RJ-45 (LAN), Plug-in screw terminal block (I/O and power)
- Watchdog Timer System (1.6 second) and Communication (programmable)
- Support protocol: Network: HTTP, UDP/TCP, DHCP, SMTP,

- iot/cloud : MQTT, UPNP

- industry: HTTP CGI, SNMP, Modbus/TCP, Bacnet/TCP,

Modbus RTU

- PING Call Timer System
- Build in RTC timer for schedule
- Option: Wireless LAN extendable

1.3.2 Latching Relay Output

4 pcs Latching type relay and each relay can switch power.

• max. 16A 277 VAC , 5A 30VDC

1.3.3 RS-485

1-ch RS-485 ASCII command and Modbus RTU to Ethernet-based(Modbus TCP)

Baud-rate and address is configured from web page

1.3.4 Thermal Sensor

The Humidity Thermal Sensor on the board. Sensing range

Thermal: $-20 \sim +100 \,^{\circ}\text{C}$ / $-4 \sim 212 \,^{\circ}\text{F}$

1.3.5 Protection:

Isolation Voltage & Power Reversal Protection

1.3.6 Environment:

- Operation: Thermal -10 ~ 70°C (14 ~ 158°F).

Humidity 20 ~ 95% RH (non-condensing).

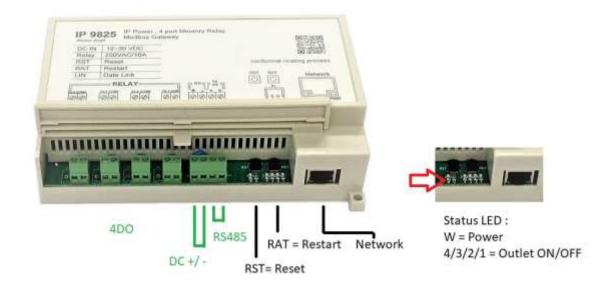
Storage: Thermal -20 ~ 80°C (-4 ~ 176°F).

Humidity 0 ~ 95% RH (non-condensing)

1.3.7 Dimensions:

- 180 x 108x 55 mm (L/W/H)

1.4 IO Interface



From left to right : 4DO , Power line in , RS485 , RST (Reset) ,RAT (Restart)

Status LED (5 pcs for power & outlet status) & Network port

Description	Function	
4 Latch Type Relay	16A/250V (memory relay)	
	Low power dispassion, lower spike, no heat more durable!	
Power line in	Power input : 11V to 30 VDC	
RS485	Receive/send RS485 message to internet (A/B)	
RST = Reset	Set back to manufactory default	
RAT = Reboot	Reboot the device power	
Network	10/100 Mbps , Ethernet RJ 45connector	

2. Hardware installation

2.1 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.

2.1.1 Package:

- Standard :
- IP 9825.
- CD with manual and software

.2 Minimum system Requirements :

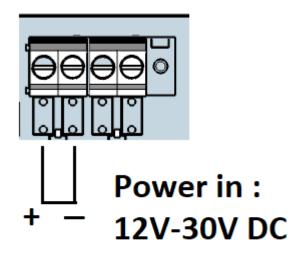
- Windows OS with network capacity & web browser . Like Google Chrome , Safari , IE 9.0 or above .
- Ethernet Hub /Switch (at least 2 ports)
- Ethernet cable with RJ45 connector
- Power supply for IP9825 (Unregulated Voltage 12V to 30 VDC)

2.2 Hardware Connection

This section provides basic information on wiring the power supply, I/O units, network connection and LED display.

2.2.1 Power supply connection

Power line in: Unregulated Voltage 12V to 30 VDC (in Green socket)

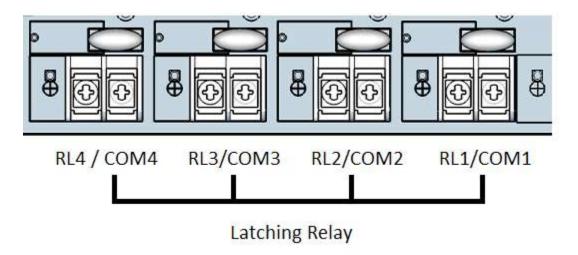


2.2.2 IO connection

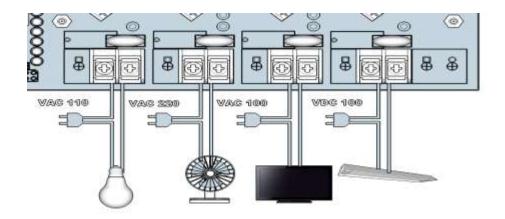
The system uses a plug-in screw terminal block for the outlet interface . The following information must be considered when connecting electrical devices to I/O modules.

2.2.2.1 Relay

Location & Connection:



Relay number from left to right: Relay #4,3,2&1



3 . Specification :

4 Latch Type Relay: 16A 277 VAC (**memory relay)** Low power dispassion, lower spike, no heat more durable!

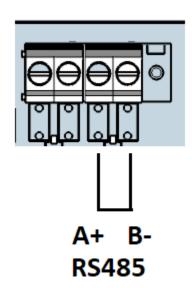
Latching type relay and each relay can switch power.

• max. 16A 277 VAC , 5A 30VDC

2.2.2.2 RS485

User can receive or send RS485 message to internet.

Location & Connection:



2.2.2.3 Thermal sensor

There is a thermal Sensor on the board. Sensing range: ±3°C from -20°C to +100°C

2.2.2.4 LED Indicators

There are LED lights near the IO to indicate the IO status

Led lights for power and Relay status

2.2.2.5 Network connection

Please refer following procedure:

- 1.) Connect the Ethernet cable (RJ45) to the 9825 to user HUB/Switch.
- 2.) Then connect the power cable into the power input port of the 9825.
- 3.) Connect the device that user would like to control to the IO of the 9825.
- 4.) After power in for around **60 seconds** , there is a short beep sound for 9825 which means the system reboot successfully

2.2.2.7 Reset & Reboot

 RST: Means Reset, set the device back to manufactory default. Like IP, password, schedule, ping setting and IO setting.

Keep pressing the RST button for 5 seconds and then release, user will get 4 short beeps soon as release the RST button , 4 beeps means the device start setting back to default .

After reset, the device will reboot it selves. So customer will get another short beep (keep pressing for 5 seconds)

The total time of RESET plus reboot procedure is around 65 seconds

 RAT: Means Reboot, device power reboot. It will take 60 seconds to boot up the system

1. System configuration

3.1 Hardware configuration

As mentioned in Page 12, user will need following items to complete user system hardware configuration.

Minimum system Requirements:

- Windows OS with network capacity & web browser .

 Like Google Chrome , Safari , IE 9.0 or above .
- Ethernet Hub /Switch (at least 2 ports)
- Ethernet cable with RJ45 connector
- Power supply for IP9825 (Unregulated Voltage 12V to 30 VDC)

3.2 Network Connection:

We suggest to connect 9825 to user router /switch in the beginning. For quick log in, we set the default network connect ion for 9825 as DHCP.

If connect 9825 to PC directly, the 9825 will change to our assigned default FIX IP and will not be back to DHCP as power reboot. User will need know the IP of user PC and then change the IP of 9825.

Please refer the two connection way to get different IP address:

• Connection 9825 with Router / Switch : strongly suggest

→ IP 9825 ---- Router /Switch ----- PC

Please use IPEDIT to get the IP address and 9825 should get the IP at the same segment with user PC system .

For example: PC IP address is 192.168.100.123

9825 IP address is 192.168.100.125

As under same segment of user PC and 9825, user can login 9825 by the web browser.

Note: Segment is the first 3 set (192.168.100) IP of full IP address (192.168.100.123)

For connection 9825 to PC directly :

The IP will be change to fixed IP.

Default FIXED IP: 192.168.1.168 (While this is no DHCP apparently)

Default Login: admin

Default Password: 12345678

After power on , It will take around 60 seconds to boot up the system . There is a long beep sound means boot up successfully.

3.2 Software configuration

As an embedded web server system , 9825 work as power on and do no need to install the driver . There is no driver to initial the system. User only need to install the IP address searching software "IPEDIT" to find out the IP address of 9825 in the beginning .

3.2.1 Software installation

The **IP Family CD** comes with the device, it has all the necessary software to run and setup the device.

- IPEdit: for search IP address of LAN /WAN in Windows system
- IP Power Center: for multiple IP Power devices control in one software.

Please refer the following procedure:

1. Place the **IP Family CD** into the CD/DVD Rom drive. The CD will auto run, but if it does not go to the CD/DVD Rom drive and select the "autorun.html" file.). If the IE /

Google chrome / user default web browser do not auto run , please go to the CD and select the file "autorun.htm" and open it by user web browser .



- 2. Please select the model IP9825
- 3. There are software, manual and QI in this area for download.

Download the software – IP Family and the software shortcut will be on the top of user pc desktop. Click "ipedit.exe ".

IP Edit is a search tool designed to search, configure, or access the IP Power device from a local networked computer. Then user can select searched IP address to log in the webpage of IP Power device.

3.2.2 Software overview

IPEDIT is a free search software developed by Aviosys for searing IP address of all IP Power series . User can change the name , gateway , IP address , netmask and two HTTP ports and read the MAC address in this software .

For IP9825, please use the version of IPEDIT in package CD.





Note: If there is no IP list in the window of local devices area of IPEDIT, please refer the following situation of user connection:

- The IP 9825 should be under same segment and same router with the PC with IPEDIT program.
- Please disable the Firewall and Anti Virus software temperally in the PC and try again.
- There might be two Network working on the PC system, like two LAN cards, please disable one for IPEDIT to search the 9825.

Double click the IP address of 9825 in IPEDIT and the PC will execute web browser like IE or Google Chrome and there is wizard pop up to enquire the Username and Password.

Username: admin Password: 12345678

Use can change the IP address information of 9825.

- 1.) In the local devices section user will see user device show up if connection correctly.
- 2.) Select the 9825 device and the device information will pop up on the right.
- 3.) Check to see that the gateway IP and the IP Address (9825) 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 9825 and user network

User PC Network:

Computer IP	192.168.1.122	Gateway:	192.168. 1 .1
Address:			
Sub Net mask:	255.255.255.0	Port:	80

User 9825 in IPEDIT:

9825 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 9825 is: 192.168.100.34

User will need to make sure that the first 3 segments of user 9825 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 9825 should be: 192.168.1.XXX

New Network Information

9825 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.

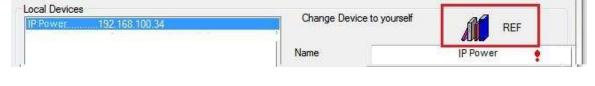
5.) Double click on the device in the local device section and an IE web browser with the device login will pop up.

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 9825.

It will take few minutes to show the suggest wizard.





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" at WiFi Info is 192.168.100. x (X can the value of 1^{252}), user PC can get into the webpage of 9825.

Please press "Rescan" to search the router near by again if can not see user router in the list.

3.2.3 Using IP Service (& CNT)

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 9825 on Internet, user still need to do the "Port Forwarding" in own router.

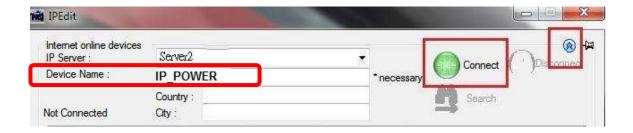
Before using "IP Service ", please change the device name of user 9825 to avoid similar name in Host Server.



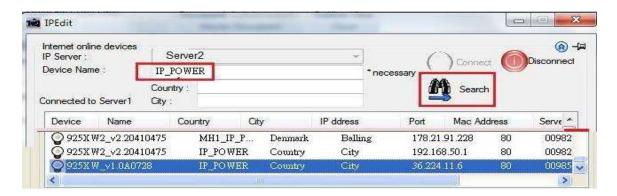
1.) Open software "IPEdit" and select the server that user's 9825 is designated to.



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



- 3.) Then type in the 9825 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 9825 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

3.3 Internet Setup

To connect the IP Power 9825 on Internet, there are two ways

- Setup Port Mapping / Port Forwarding in user router. Please check user Router owner's manual.
- Use our own software "IP Power Center": Please refer to the "IP Power Center" manual in the CD
- Use "UPNP": User can enable or disable the function.



4 Webpage Interface overview

The 9825 webpage offers a graphical interface that helps user configuration . It is also very convenient to test and monitor user remote data acquisition and control system. The following guidelines will give user some brief instructions on how to use this device . The configuration column at the left side of the Web Interface are the functionality and setup of the IP Power 9825 .

There are 5 areas:

• Information: Device Name, Display, Time and Thermal status

• Output Control: DO, Schedule & Ping.

• **Network**: Setting

• Application: Email, DDNS, Communication & IP Service

• System: Management, Information, SysLog & Firmware

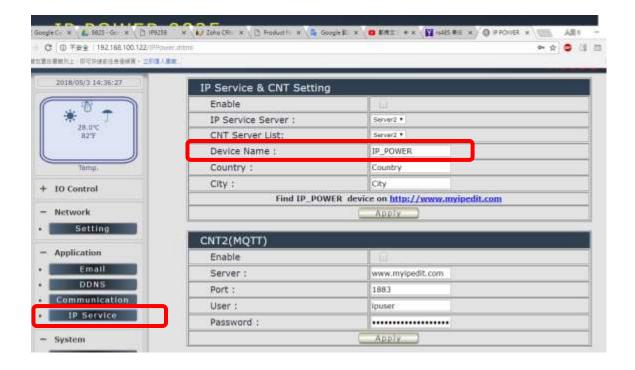
Logout

4.1 Information

4.1.1 Device Name:

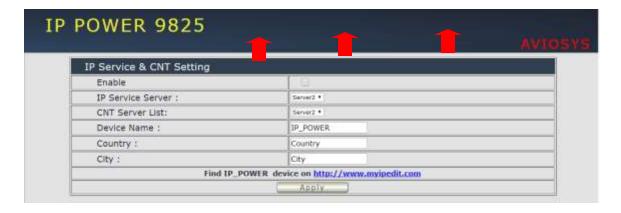
The device name show in yellow at the left side of webpage . User can change the name in Application \rightarrow IP Service \rightarrow Device name

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



4.1.2 Display

Click any part of the deep blue column can hide or display the configuration column. This design is for small display like smart phone.



Normal - with full display / Without configuration column

4.1.3 Time

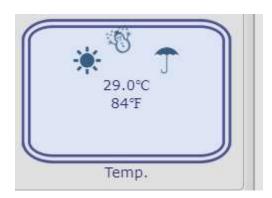
User can get Time at Year – Month – Date Hours: Minutes: Seconds here.



To setup the Time , Please go to "System \rightarrow Management \rightarrow NTP Settings " , there are several ways to setup the time .



4.1.4 Thermal status



There is a Thermal sensor on 9825 board shows the temperature value in Celsius ($^{\circ}$ C) and Fahrenheit ($^{\circ}$ F) .

Sensor Range: ±3°C from -20°C to +100°C (Internal warning)

4.2 Output Control

The IO Control Section allows user to directly or automatically control the Relay , setup the Schedule , setup the Ping function .

There are 3 sections: Control, Schedule & Ping.



4.2.1 Control

In this area , user can control& setup the relay "Power Control " or "Advanced Setup "

4.2.1.1 Power Control

Here user can control the Relay or , arrange the power cycle one by one or control by group .

There are 4 Latching Relay outputs in IP Power 9825. Each relay can be controlled ON, OFF or Reboot individually.

Latching relay is Low power dispassion, lower spike and no heat. It is more durable than other normal relay . Latching relay is also a memorable relay . As the device power turn off , the relay status will keep as it is at ON or at OFF.



There are two operations for controlling the relay:

A-1 Manual control: Control each port ON or OFF directly by pressing the power button.



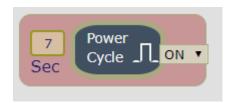
A-2 Power Cycle control: Manually Control the relay delay to turn ON / OFF. The relay cycle time can be set from 1 to 9999 seconds



User can seutp 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 15sec: After press power cycle button, the outlet will turn OFF for 15 seconds and then turn ON.

OFF (15 sec)
$$\rightarrow$$
 ON

- 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 (
$$10 \text{ sec}$$
) \rightarrow 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 and then turn OFF.

OFF
$$\rightarrow$$
 ON (8 sec) \rightarrow 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.

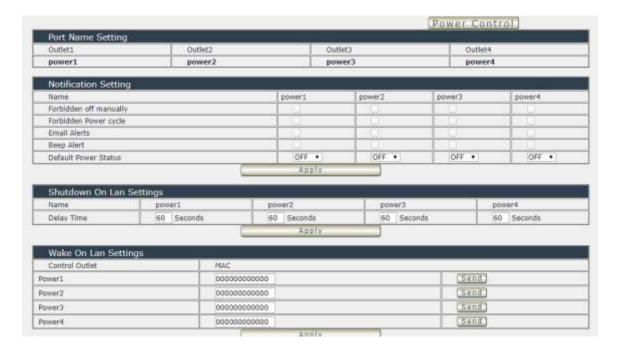
ON (5 sec)
$$\rightarrow$$
 OFF

Notice:

As use Latching Relay in IP 9825, there is no difference of **Normal Closed Relay** (NC) or **Normal Open Relay** (NO). As there is no power for 9825 device, **the relay status will keep as it is at ON or at OFF.**

4.2.1.2 Advanced Setup:

User can do the advance setup here : Outlet name , notification (email , beep & default status) , and setup "Shutdown on Lan" and "Wake on Lan" :



A-1 Port name setting:

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





A-2 Notification:



- A-2-1 Forbidden OFF manually: disable the manual control function to the selected outlet.
- A-2-2 Forbidden Power cycle : disable the power cycle function to the selected outlet .

For example:

Forbidden outlet #1 & power cycle # 2 . The manual control button will be grey and can not control as following :



A-2-3 Email Notice: To use this function, please fill email information in "Email" area under "Application" Please refer the setting information in page #56



A-2-4 Default Power Status

Here is to setup the default power status as device power reboot .

The control section allow user to set the power status on 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 .

Notice:

As use Latching Relay in IP 9825, there is no difference of **Normal Closed Relay** (NC) or **Normal Open Relay** (NO). As there is no power for 9825 device, **the relay status will keep as it is (ON / OFF)**.

A-2-5 Beep Notice: As the relay turn on or turn off, the beeper will alarm.

A-3 Shut down On Lan (SOL)

Setting of software shut down controlled PC/ Server . Shut Down On Lan: Support Windows or Linux version .

9825 can be used to safely turn off the PC/Server through Network. With this feature user can remotely shutdown any PC/ Server which that is connected to the IP 9825 through normal Windows shut down procedure.

Documents created in programs like Microsoft office will not be automatically saved. The IP9825 will still shutdown the controlled PC/server without saving the file. The controlled PC/Server must be in the same ETHERNET and the same SUBNET as the 9825. User can setup the delay time for the Relay to turn OFF after SOL command place by 9825.



Before operating the software shutdown function it is essential to install our software:

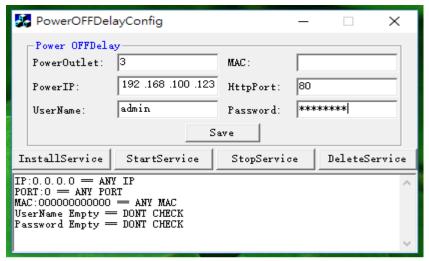
Installing and Setup of the "PowerOFFDelayConfig .exe":

Insert the CD that came with the device into the PC that you want to turn off.

Please download the software in our attached CD: SDK → Shut Down On Lan →

PowerOFFDelayservice.zip and unzip the software and install program

"PowerOFFDelayConfig.exe" into the PC that will be controlled. Execute and fill correct information in each section:



-PowerOutlet: Enter the power number in the 9825 that user want to control

-MAC: Enter the MAC address of the 9825

-Power IP: Enter the IP address of the 9825.

-HttpPort: Fill the port of 9825 , default value is 80, if amend the port in 9258 please correct.

-UserName: admin

-Password: 12345678 (password can amend in web page)

Click "Save " to save the settings.

Then Click "InstallService" to install.

Then "StartService" then please shutdown the PC/Server.

After the PC has been restarted, the function will be in effect.

A-4 Wake On Lan: (WOL)

Remote Wake up PC by MAC address in Ethernet (LAN) . Use Network port (RJ45), you can wake PC on WAN by PC `s MAC address.

Wake on LAN (WOL) premise:

- (1) First the PC mother board needs to have Wake on LAN support and enable this WOL function in the BIOS setting.
- (2) User's network card must also support "WOL", remember to connect your connect cable to Mother board or the network card cannot send the "power on" message to the motherboard.

After both the motherboard and network card have been setup, you can use WOL function by following the steps below:

Step 1: Log in 9258 web page and go to "Network Wakeup"

Step 2: Type in your MAC address then press "send" – the PC will be power ON.



4.2.2 Schedule

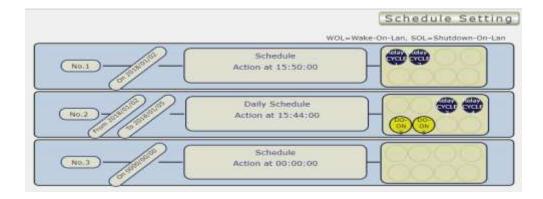
In this section , user can see the setting schedule list first up to 29 rules . To setup each schedule , please press "Schedule Setting", then user can get the "Schedule List" page as following:



After setup the first schedule , the second schedule will pop up automatically in the Schedule list for user to setup new one . Use can add 29 rules one by one . Each rules can control 1 pc to 4 pcs Relay and 1pc to 4pcs DO .

4.2.2.1 In "Schedule list"

User can see the schedule user apply and the information.



4.2.2.2 In "Schedule Setting"



A. Action:

The schedule allows user to control the Relay outlet or turn ON , OFF , Cycle (Off to ON) at assigned time

-In Relay: ON, OFF, CYCLE, WOL (Wake on Lan) or SOL (Shutdown on Lan)

- WOL (Wake on Lan) : Please refer the page 34 . WOL is for 9825GP-ERL to send WOL command to WIN /LINUX OS to boot up as that OS is power OFF status (not freeze status) The OS mother board need to support WOL function .

Relay Outlet #	WOL#
1	1
2	2
3	3
4	4

Wakeup On LAN	MAC	Wakeup
WOLI	00000000000	Send
WOL2	000000000000	Send
WOL3	00000000000	Send
WOL4	00000000000	Send
WOES	00000000000	Send
WOL6	00000000000	Send
WOL7	000000000000	Send
WOLE	00000000000	Send

- **SOL** (**Shutdown on Lan**): Please refer the page 35. SOL is for 9825GP-ERL to send SOL command to the WIN OS which execute our software " **PowerOFFDelayConfig.exe** " to shut down up **as that OS** is **On status** (not freeze status) The OS mother board need to support WOL function .

Note: There is LINUX version software for Shutdown on Lan

Relay Outlet #	SOL#
1	1
2	2
3	3
4	4



B. Adding a Scheduled Event

First, Select the Action Duration: There are 3 setting - Once, Every Day. Every Week

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



Third, Select the Time Period.

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

Once the scheduler has been Set Up , hit the "Apply No.X Sch" button and user will see user setting located on the bottom of the Action section .

C. Edit a Schedule Event:

Step1: Please select the Rule user want to edit in Scheduler List.

Step2: Change the setting like Duration, Date, Time and Action.

Step3: Press "Apply NO. X Sch" button to save the setting and user will see the page refresh and new setting display in Scheduler list

D. Delete - Click "Delete" button to remove a rule form the list.

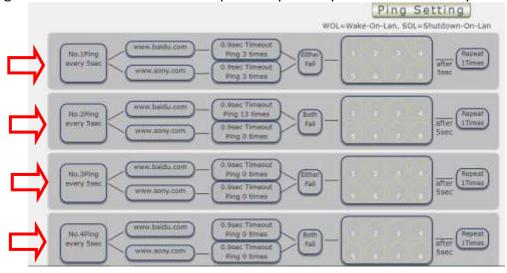
4.2.3 Ping

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".



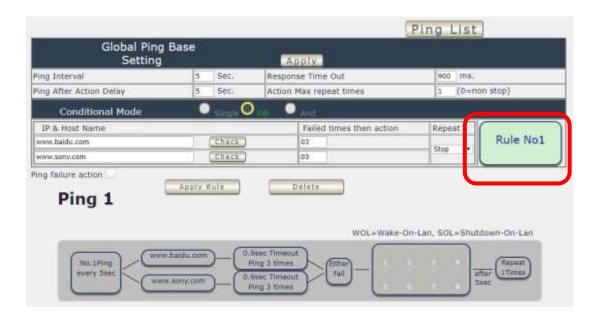
4.2.3.1 Ping List

Here list out the 8 Ping List for user to check. As click any part of the gray column, user can go to the setting of that Ping number. **There are 8 rules in Ping list** User can setup 8 Ping rules. Each rules can control 4pcs Relay and 4pcs DO automatically.



4.2.3.2 Ping Setting

User can click to select different rules numbers at the right side button "Rule No: X" as following pictures. There are 8 rules available.



There are 3 sections of the area:

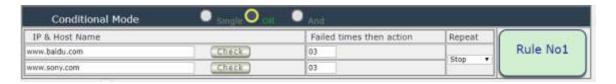
A. Global Ping Base setting:



- Ping Interval (Sec): The number of seconds between each ping.
- Response Time Out: It is the 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: It is the seconds it take AFTER the action.
- Action max. repeat Times: It is the times to execute the Ping Failure action. Set "0" means action non stop Keep action & no limit times.

As finish setting , please click "Apply" to save the setting in this area , the webpage will refresh and user can see the final setting result.

B. Conditional Mode:



B-1 Basic setting:

- -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 then action : Setup the ping failure times for 9825 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).

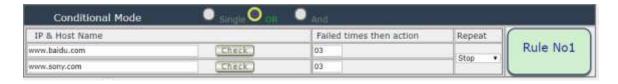
B-2 Three Modes

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

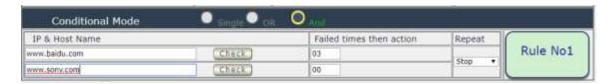
Single Mode: Execute Action by one IP Host failure. 9825 will Ping one IP address.
 As the IP fail times reach to the setting times. Action (ON/OFF/RESET)
 will be activated.



OR Mode: Execute Action by either one IP Host failure as setting 2 pcs IP Host.
 9825 will Ping 2 IP address. Either one IP fail times reach to the setting times. Action (ON/OFF/RESET) will be activated.



 And Mode: Execute Action by both IP Host failure as setting 2 pcs IP Host 9825 will Ping 2 IP address. Both IP fail reach to the setting times. Action (ON/OFF/RESET) will be activated.



C. Ping failure action:

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.





When the number of Ping Failures times have been reached. The device can be set to "ON, OFF, Reset-Cycle, WOL (Wake on Lan) & SOL (Shut On Lan) "function

- Relay ON or Relay OFF: Turn ON or OFF the outlet

- **Reset -Cycle**: Can set up the time gap from OFF to ON. The "Sec "section is for action as Reset only.
- WOL (Wake on Lan): Please refer the page 34. WOL is for 9825GP-ERL to send WOL command to WIN /LINUX OS to boot up as that OS is power OFF status (not freeze status) The OS mother board need to support WOL function.
- **SOL** (Shutdown on Lan): Please refer the page 5. SOL is for 9825GP-ERL to send SOL command to the WIN OS which execute our software "PowerOFFDelayConfig.exe" to shut down up as that OS is On status (not freeze status) The OS mother board need to support WOL function.

Relay Outlet #	WOL#or SOL#
1	1
2	2
3	3
4	4

Wakeup On LAN	MAC	Wakeup	Shutdown On LAN	DelayTime
WOL1	00000000000	Send	SOL1	60 Seconds
WOL2	00000000000	Send	SOL2	60 Seconds
WOL3	00000000000	Send	SOL3	60 Seconds
WOL4	00000000000	Send	SOL4	60 Seconds
WOL5	00000000000	Send	SOL5	60 Seconds
WOL6	00000000000	Send	SOL6	60 Seconds
WOL7	00000000000	Send	SOL7	60 Seconds
WOL8	00000000000	Send	SOL8	60 Seconds
	Apply		App	oly

4.3 Network:

The Network Section allows user to setup LAN –Ethernet . There are Static Mode (fixed IP) or DHCP for elect .



LAN (Ethernet) Settings :

A. STATIC (fixed IP):

For users who need to control through Internet. Setup IP address manually. This allows the 9825 to obtain an IP Address automatically from user's server connected to Internet.

Please fill up the IP address, subnet mask and gateway correctly for login from Internet.

B. DHCP Mode:

Recommended for non advance users. This allows the 9825 to obtain an IP information automatically from user's server connected to Internet. User can only revise PORT which is 80 as default.

As the IP from DHCP Service of user's router will be changed by router . 9825 will remember last IP of 9825 assigned by user's router in "Last DHCP state " for information

Notice:

Without network connection, the IP address of users Windows PC is 192.168.1.168 So the IP is for user to connect 9825 to PC directly and user do not need to change the IP of WIN PC connect to 9825 by network cable.

C. Secondary IP: Enable or disable

This is for advances setting the DNS Server - primary / secondary

4.4 Application Settings

The Application Section allows user to setup email, DDNS, Communication and IP Service.



4.4.1 Email

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

A. Email Setting:

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

- 4 Receive E-mail with IP information & MAC Address as 9825 device boot up.
- 5 Receive E-mail as DI Rising (Low to High), relay status change in each output.

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

The 9825 allows user to send from public e-mail account, such as Gmail or Hotmail or other public email address.

- **SMTP Server**: This is the mail server of sender . If user select "Gmail " or "Hotmail " account as SMTP Server , 9825 will fill the SSL & Port automatically . If user select "Other " as SMTP Server , please fill the SMTP server information manually .
- Port: This is the port of SMTP Server. Most common port to send out e-mail is port 25
- Start TLS: Enable or disable
- User: Login for the e-mail address. Ex: 9825@gmail.com
- Password: Password for the e-mail address. EX: 12345678
- From: Mail sender address to send the E-Mail out. Ex: 9825@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.

B. 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 .



Settings Section:

To set up 9825 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, 9825 will fill the SSL & Port automatically.

- -User: Psername 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 9825 to recognize this mail as 9825 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 9825 to search as command mail in the number of user email receiver latest. EX: setup 20 that 9825 will check the latest 20pcs email in receivers mail box for the 9825 command mail
- **-CTRL format**: Control format by subject or by body (e-mail contents)

For example: Use Gmail as sender and receiver

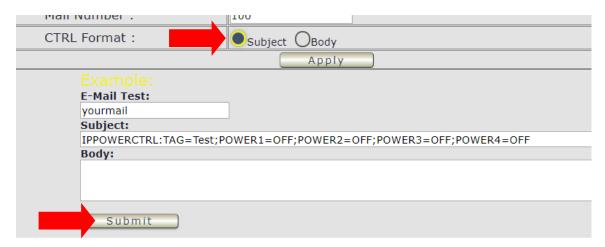
Sender's e-mail: 123@gmail.com

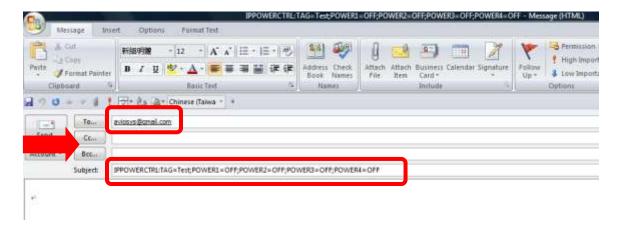
The Username to log in sender's gmail: 123@gmail.com or abc@def.com

The 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

There are 2 sections 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 .

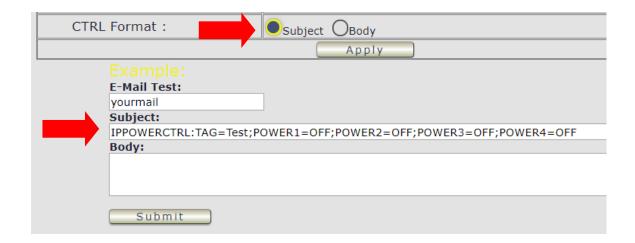
2. ;POWER1=OFF;POWER2=OFF;POWER3=OFF;POWER4=OFF

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

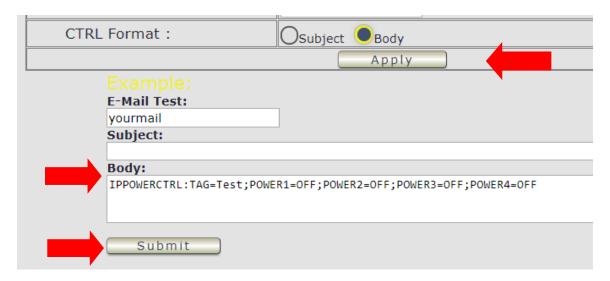
EX: Put "14ON" in tag section and place the command as following: (at subject or body depends one user's setting):

IPPOWERCTRL:TAG=14ON;POWER1=OFF;POWER4=ON **E-mail example :**

D. Execute e-mail command by "Subject"



E. Execute e-mail command by "Body"



4.4.2 DDNS

The DDNS section allows user to setup the 9825 with a DDNS server (i.e. www.dyndns.com). After the server has been setup correctly, enter the necessary information into the 9825 DDNS settings.

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

	DDNS	5
DDNS Setting		
Service Provider :	None ▼	
Account :	None Dyndns.org	
Password :	freedns.afraid.org www.zoneedit.com	
Domain Name :	www.no-ip.com	
Apply	Cancel	

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

For Example:



4.4.3 Communication

There are 4 different communication: SNMP, Telnet, ModBus TCP & BacNet (Beta)

A. SNMP: Enable or disable

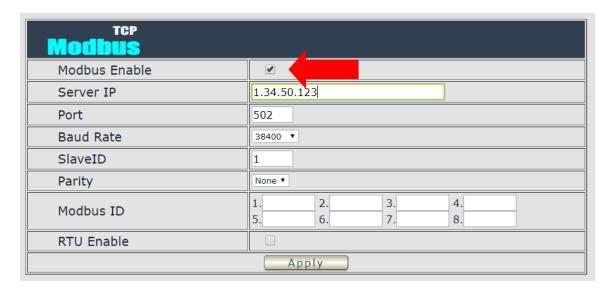


This section is for development of system integrator who familiar with SNMP knowledge.

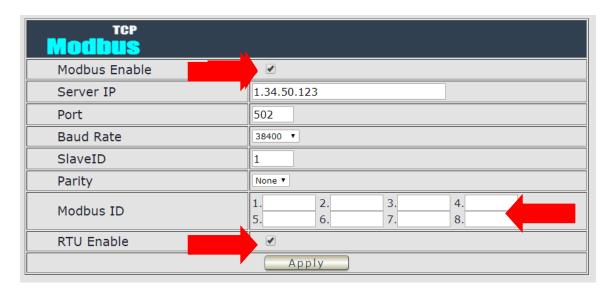
B. Telnet: Enable or disable



- C. **Modbus**: We supply 3 models of ModBus control
 - C-1 ModBUS TCP: Just Enable or disable this function



- 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 - Beta: Enable or disable



4.4.4 IP Service

In this section, user can setup

- A. IP Service & CNT (Cross Network Technology),
- B. CNT 2 (MQTT)



IP Service & CNT Setting:

The IP SERVER allow 9825 to be easily accessed on the internet by our IP Power Center or IP EDIT. With this feature anyone can find there device with no problems.

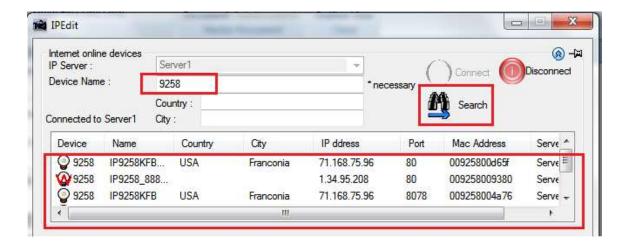
IP Server: Allows user can find user of 9825 on the internet without having to remember long IP Addresses. Instead user can just remember the name of user device.

- E. Enable IP Server: Enable or Disable this function click.
- F. IP Server & CNT Server: For easily setting, please select same server number for the 2 part.

User can search the 9825 by Device name, Country or City.

This allows the device to easily be accessed 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 #26 for the function of IP Server



B. CNT2 (MQTT)

Please contact with distributor or us for the details information .

4.5 System Setting

The System Section allows user to do setting of management, system information, Setup SysLog, check firmware version / Update firmware online.



4.5.1 Management

In this section there are several setting:

Administrator setting, Host Connection Interval, NTP setting, Backup Setting, Load Factory Default, Restart System

The message show:



Administrator settings

The User Management section allows user to create users that will be able to access user device.

There are two main types of users:



There are three Authorities in 9825. The account name and password can be changed by user, but each Authorities only support one Account name & one password.

- **Admin**: The *Administrator* has the authority to create other users, remove users, and control the device. 9825 will ask to log in again if change the Default Setting here.
- **Operator**: The operator can only control the setting of "IO Control "section but can not see other page of 9825.
- **Viewer**: The viewer can only see the "IO Control "section, but can not see other page of 9825.

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 ""; : ~!@#\$%^&*()	

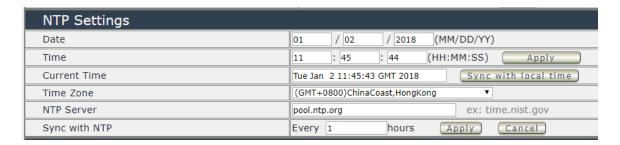
Please click "Apply" button after change the account name / password

Language settings

There are three display Language - 3 Language (English, Chinese, Simple Chinese).

NTP setting

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



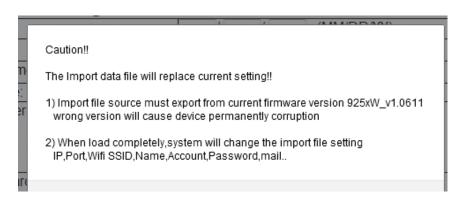
NTP synchronization: User can setup the time gap ($1^{\sim}300$ hours) for 9825 to check the time with the NET server.

Import configuration files

Back up the setting and setup. User can export the setting of 9825 into a "DAT" format.

It will save most the setting in 9825. User can import the file which is exported from 9825 as "DAT" format. It will help user to setup many 9825 device in a short time.

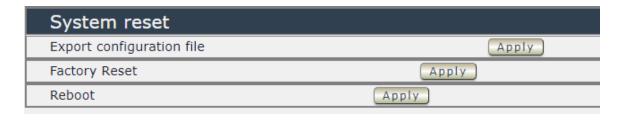
As press "Import", there is caution message show as following:



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

- Do NOT import DAT file which is not export form 9825. 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

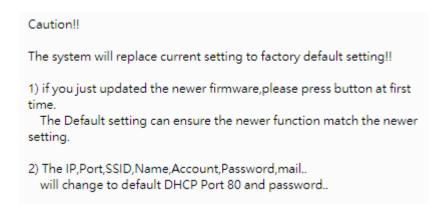
System reset



In this section, user can click one button to set back the setting to default or restart the 9825 without device nearby user side.

- Export configuration: export the setup into a file for other 9825 device to import same setting. Like Schedule, Ping, name of power, Relay, DI and DO.
- Factory Reset: Set device back to factory default . factory default setting
 of 9825 IP is assigned by DHCP. It will change the IP if load factory defaults .

Factory Notice:



- **Reboot :** Power reboot the device directly. It will take around 60secodns for boot up the 9825

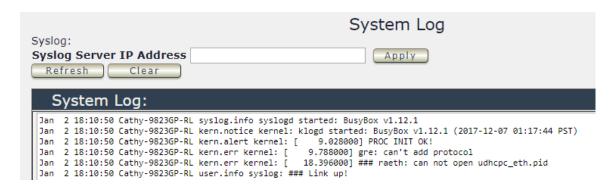
4.5.2 System Information

In this section, user can get the system information like System, LAN and others.

System				
System Up Time	13 hours, 12 mins, 23 secs	MAC Address	00:76:23:00:00:24	
Firmware Version	v1.00_282_5	Hardware Version	(Dec 21 2017)	
WAN				
WAN IP Address	IP Address 0.0.0.0 Ethernet Port	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		ОНСР		
Local IP Address		192.168.100.136		
Local Netmask		255.255.255.0		
Other Informatio	in .			
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 9825 system operation information and send the information to assign Server IP address (not support name). The system information will be deleted after 9825 device power reboot.



Please click the IP and save by click "Apply"

4.5.4 Firmware

The firmware update function only support in LAN connection . NOT support under WiFi connection . Before update , please DO READ THE MESSAGE BLOW :



Upgrade selected firmware to obtain new functionality.

Caution! A corrupted image will hang up the system.

It takes about 1 minute to upload & upgrade flash and be patient please.

To update the 9825, please follow the instruction below to prevent anything happens like **update incomplete** or **hardware disable** which may be caused by wrongdoing of updating. Please also update the notice in webpage before update

by wrongdoing of updating . Please also update the notice in webpage before update :

- 1) Turn off all chat programs including (Skype, FB. QQ, AIM, Yahoo messengeretc.)
- 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 Web Browser like IE, Google Chrome, Firefox.
- 9) Please change the PORT as 80
- 10) Reboot and Do the Hardware Reset (keep pressing RESET two buttons for 5 seconds and release) after update successfully. There are 4 beep show the reset successfully.
- 11) Clear the Cookies to avoid get the old webpage.

5. Controlling the Device

5.1 CGI HTTP Commands

CGI Commands allow user to easily integrate the 9825 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 user 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=v1.04_335

2.2 To get MACaddress: getmac

http://192.168.1.18/set.cmd?cmd=getmac

System return:

CGI Command: Data follows

mac=0076250000FC

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

2.4 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=1&p62=1&p63=0

System return:

CGI Command: Data follows

p61=1,p62=1,p63=0

2.5 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

System return:

CGI Command: Data follows

p61 cycle ok,p62 cycle ok,p63 cycle ok

5.2 Telnet Control

```
IP login: admin
```

```
_ 🗆 ×
CV Telnet 192.168.1.18
# ioctrl -h
Usage: ioctrl
 [-h | --help 1...... display this help
 [-s | --setpower p6=0011 or p6x=1(x=1,2,3,4)].....: turn on/off ports on the d
vice
 [-p | --getpower ]..: get the on/off status of the device
 [-c | --current ]...... get the current value of the device
 [-t | --temp ].....: get the temperature value of the device
 [-v | --version ].....: display version information
# ioctrl -s p6=1111
p61 ok.p62 ok.p63 ok.p64 ok.
# ioctrl -c
Current value: 0.000000, 0.000000, 0.000000, 0.000000
# ioctrl -t
Temperature value: 32.299999
IO CONTROL Version: 1.0
Compilation Date....: May 14 2013
Compilation Time....: 10:44:47
# ioctrl -p
Power Status: 1, 1, 1, 1
```

Notice: The command "-C" are for other model only.

6.FAQ:

Q1: Why can't I see the 9825's IP address in IPEDIT.exe ?

Ans.: Please check the PC you use is under same LAN/ network / segment $\,$ as 9825 $\,$.

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 IP9825.

Q2: Why can't I see my 9825 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.



Notice:

Under DHCP mode - 9825 will get the Network type (Gateway) information automatically. But if under Static mode , please do fill up the correct Network type (gateway) .

Step 3 : Connect user PC and 9825 to a router by LAN. Then **reboot 9825 (MUST DO)** . After 45 seconds with a long beep sound , user can find the LAN IP of 9825 by IPEIDT.exe

Q5: How can I reset to default:

Ans: Keep pressing the button of "RESET for 5 seconds at least

To reset to original manufacture settings: press the reset button with a sharpen pin for 5-6 seconds then RELEASE. There will be 3 beeps sound which means reset start and 9825 will be rebooted itself-there is one beep after reboot) and most information go back to default setting (LAN IP).