# WPC-132-DL Quick Installation Guide

## Content

# Installation of IP Search Tool

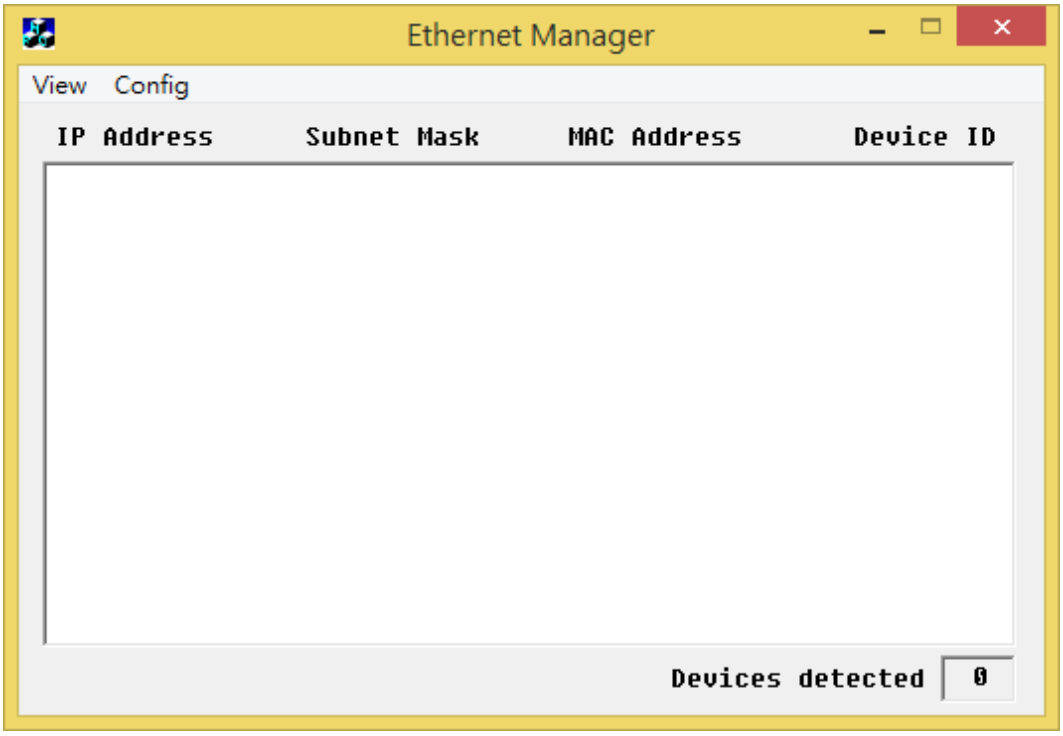
1- IP Search Tool

Please copy Etm.exe to your PC. You can find the file in the CD ROM.

2- Ethernet Manager

Double click Etm.exe to execute the IP search tool.

You will see following page.



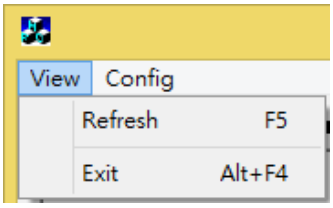

The information of IP Address; Subnet Mask; MAC Address; Device ID (WPC-132) will be shown up. Where on the top row, there are

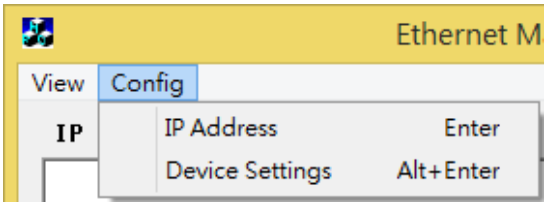
View

a. Refresh (F5) – Seraching the connected WPC-132 via Ethernet
b. Exit (Alt+F4) – Exit Ethernet Manager

Config

a. IP Address (Enter) – Modify IP address
b. Device Settings (Ctrl+Enter) – Open browser for WPC-132 device set up



# Connection of Hardware

Please prepare a PC, a network Switch and a WPC-132-DL.

1- Power on WPC-132-DL

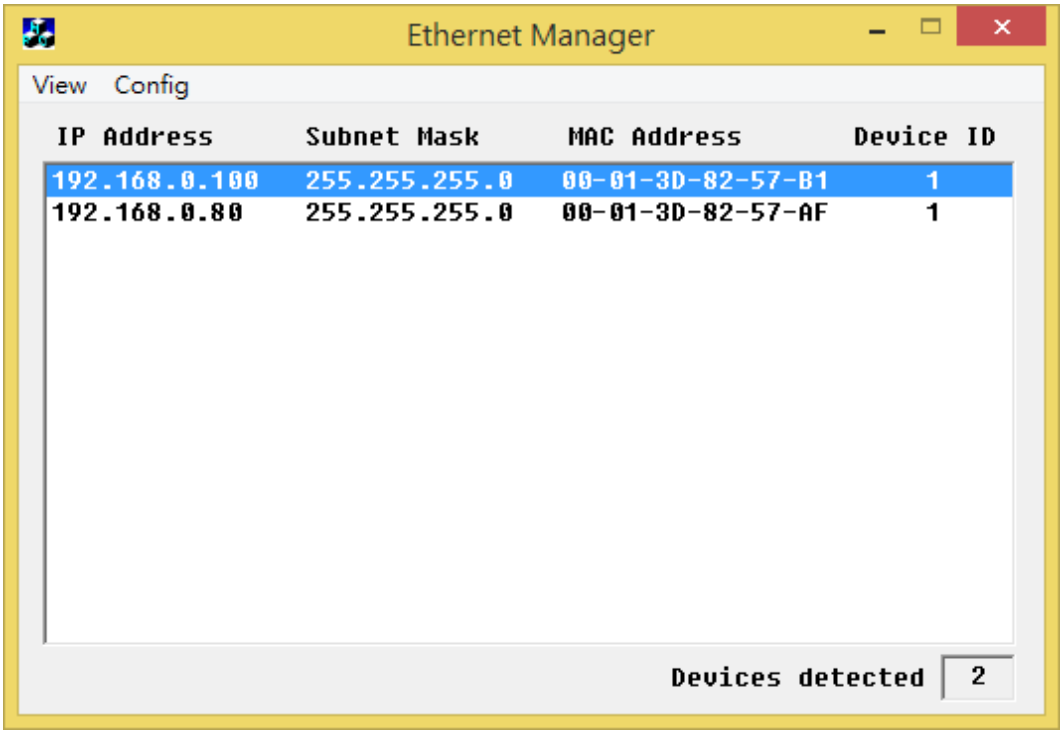
1-1. LED Status

Connect both PC and WPC-132-DL to network Switch with RJ45 Ethernet cable. Insert power cord to WPC-132-DL. LED status as below,

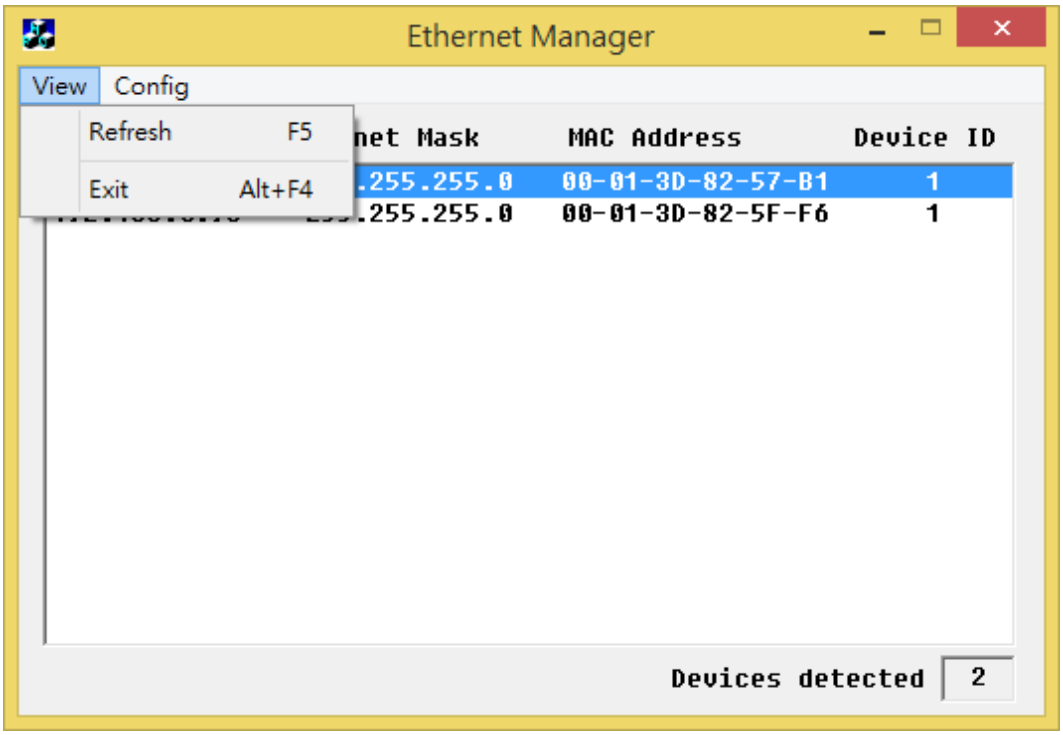
| LED | Color | Status | Description |
|---|---|---|---|
| SYS | Green | On | First connect to power. |
| | | Flash | In normal status. Blinks every 1 second |
| 100M | Green | Flash | There is data transmission in 100Mbps. |
| 10M | Red | Flash | There is data transmission in 10Mbps. |
| User | Red | Off | Not defined |

2- Searching WPC-132-DL

Please click the Ethernet Manager icon to search connected converters. (Default IP: 192.168.0.100). The founded WPC-132 device will be automatically shown on the list.




Click “View” tag on the menu bar of Ethernet Manager. You will see following page



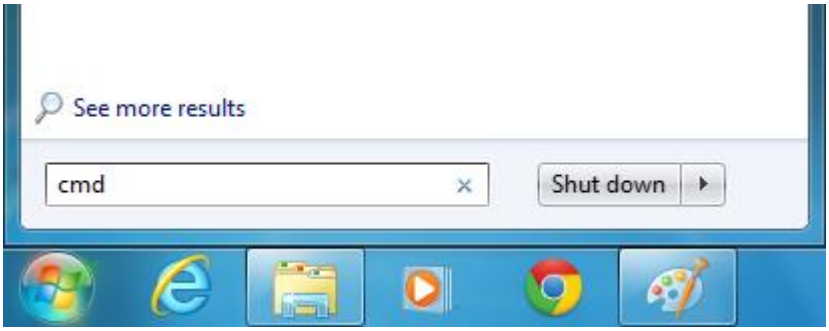

You can manually search WPC-132 devices by click “Refresh” button. Click “Exit” to end the searching program.

3- Connecting

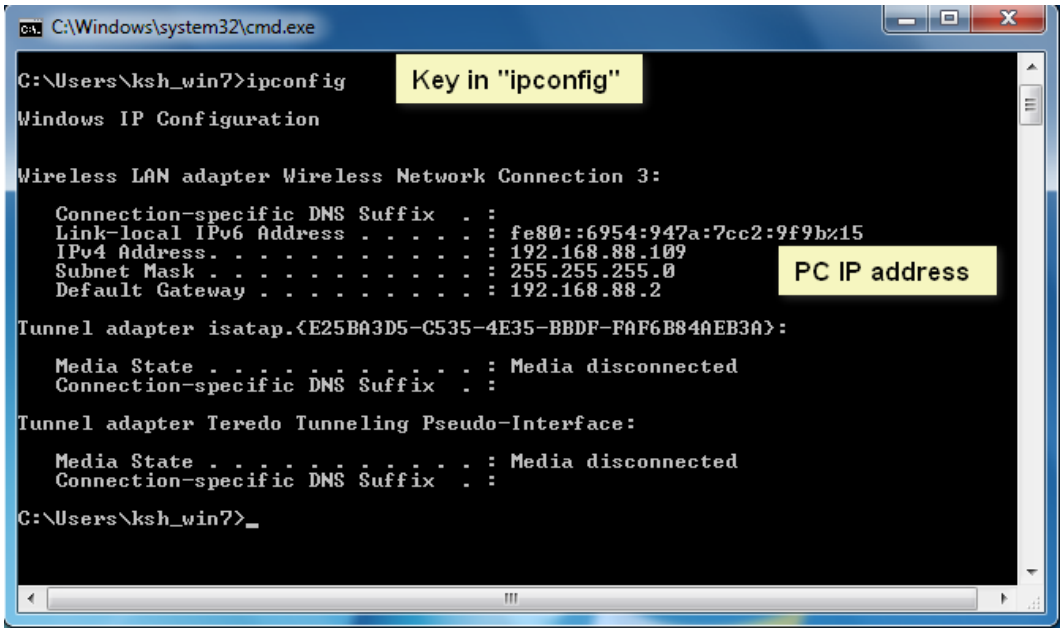
Now you have found 1 pcs WPC-132 device. To link the device, please check first whether PC and WPC-132 are in the same network segment. PC and WPC-132 are able to be connected only when both are in the same network segment.

3-1. Checking PC IP address

Click “Start”. Key in “cmd” in RUN Command as below



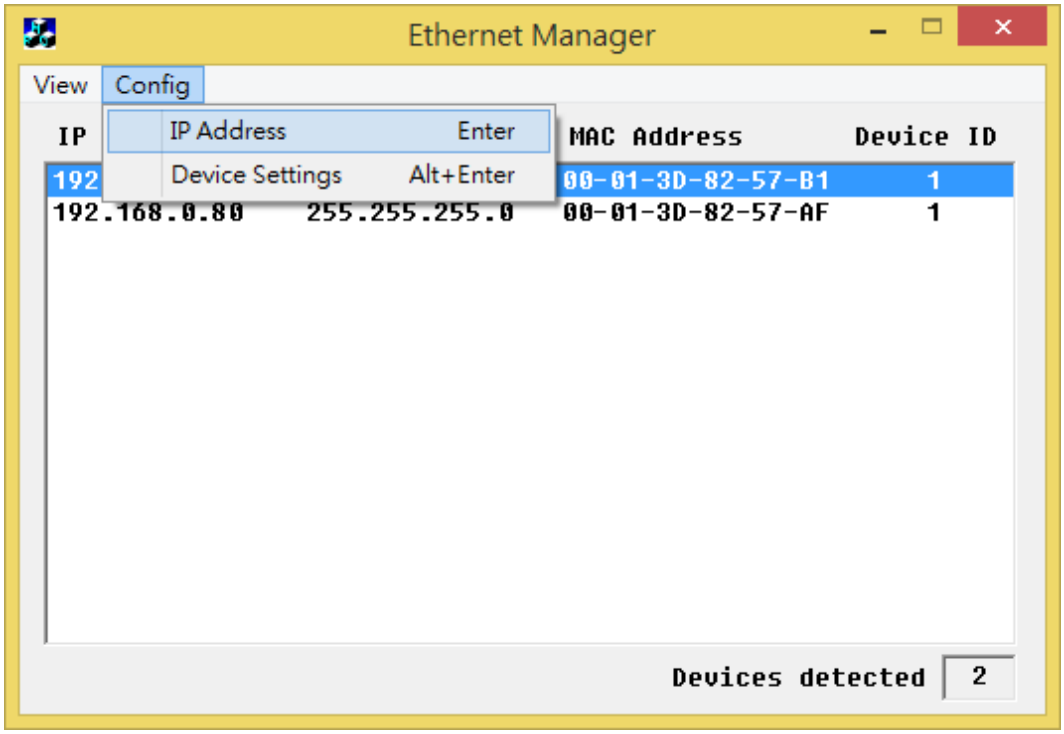

A cmd window pops up. Type in “ipconfig” then press “enter”
PC IP address and other network parameters will be shown.



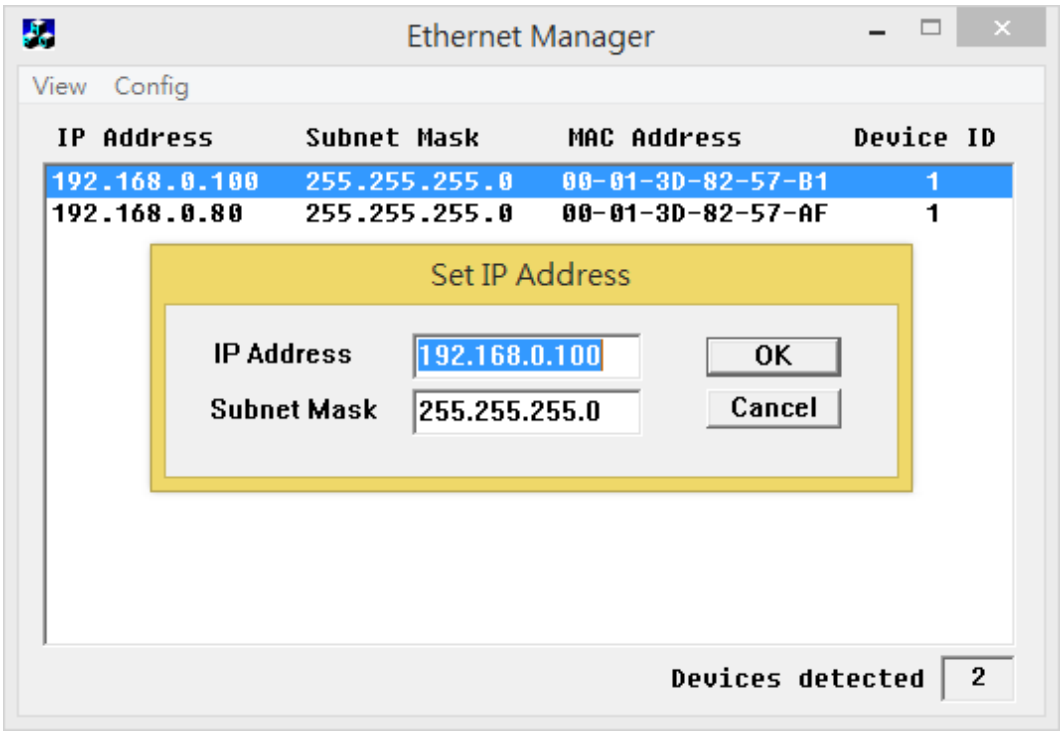

You can modify the IP address by following two ways.

3-2. Change Converter IP address

3-2.1. To modify converter IP address. Please go to “Config” → “IP Address”



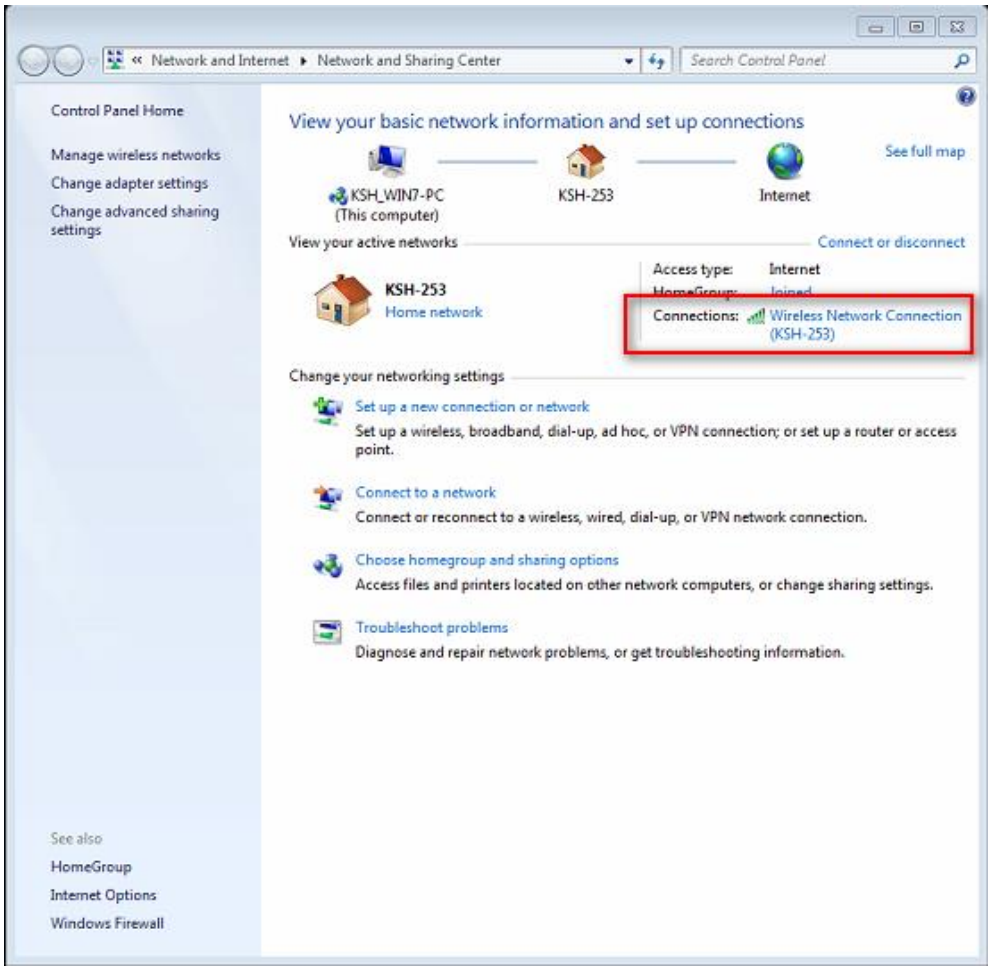

3-2.2. “Set IP Address” window pops up. You can modify IP Address, Subnet Mask and Gateway now. Press OK after modification.



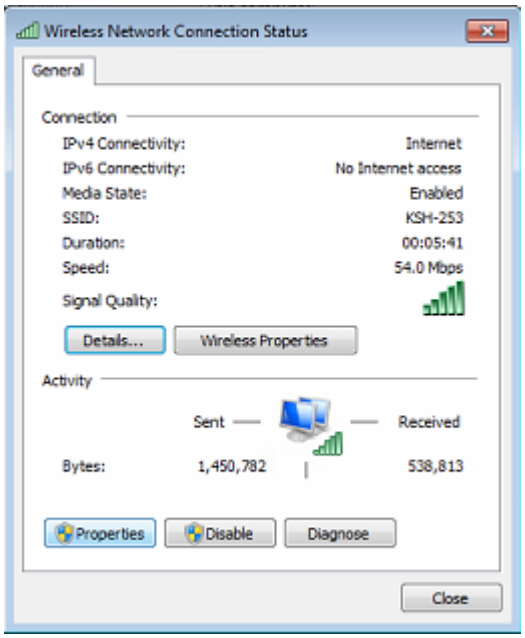

3-2.3. Press “View” → “Refresh”. You will find a searched WPC-132 device with new assigned IP address and parameters.

3-3. Change PC IP address

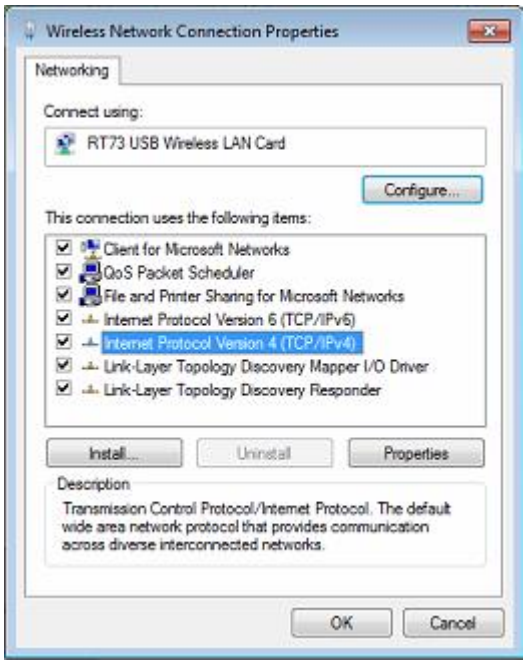
3-3.1. Go to Control Panel → Network and Internet → Network and Sharing Center, Then double click connections (either LAN or Wireless)

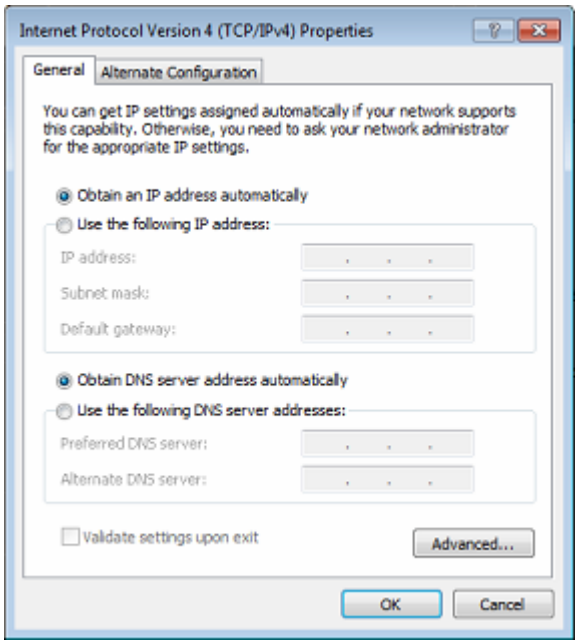



## 3-3.2. Click the Properties

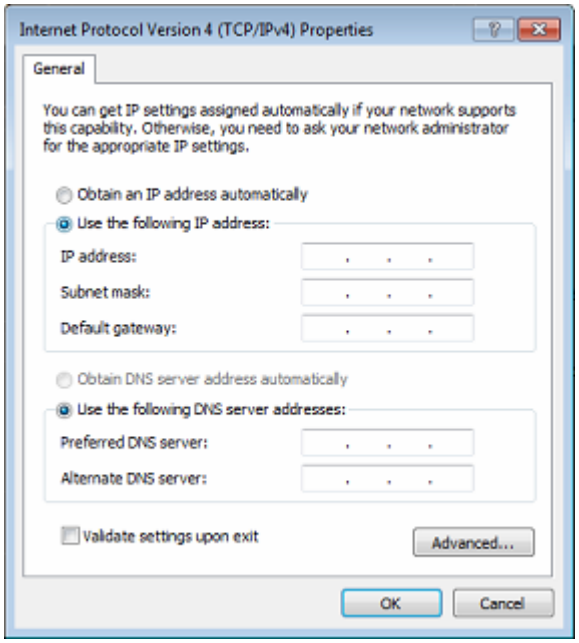


3-3.3. Click the Internet Protocol Version 4(TCP/IPv4) and press the “Properties”. The ”Properties” page will show “Obtain an IP address automatically” as default

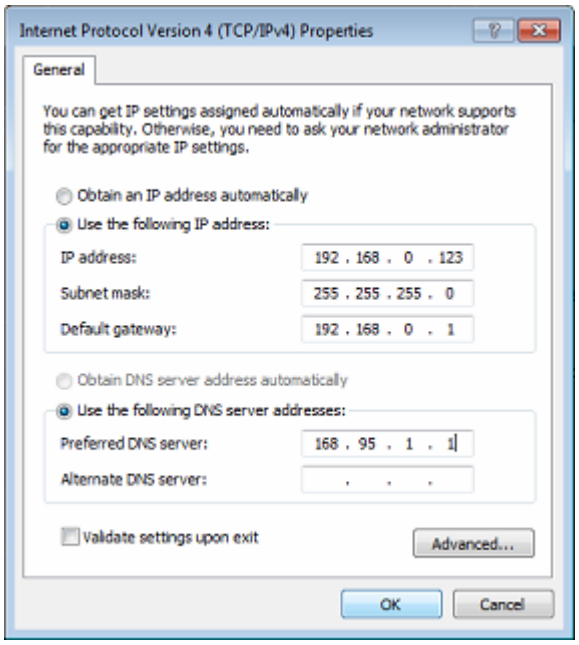



3-3.4. Click “Use the following IP address”



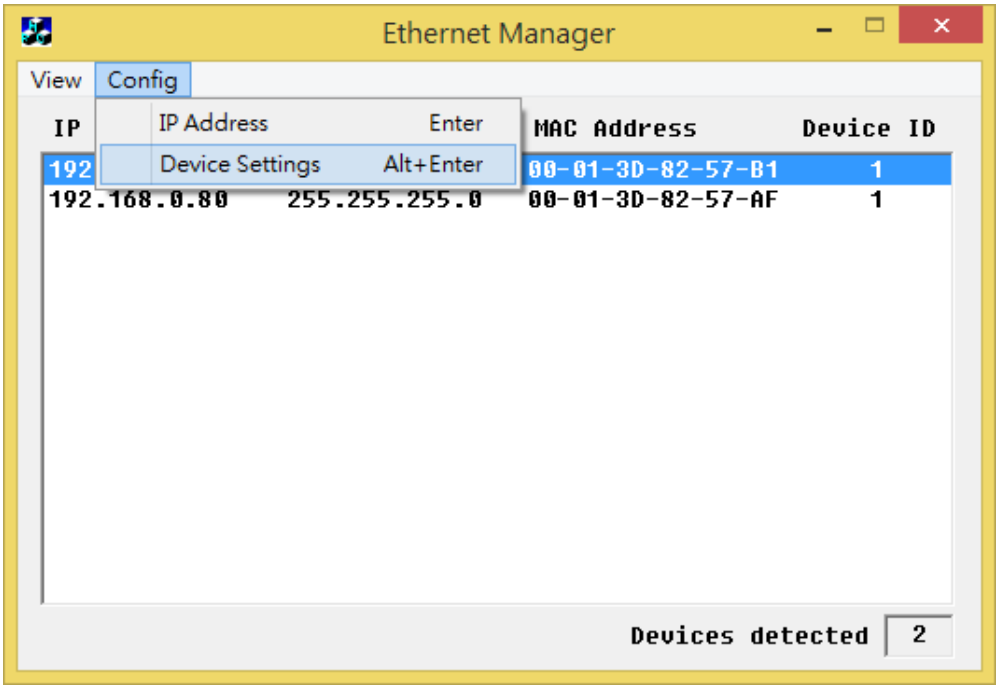

3-3.5. Key in the IP address, subnet mask, default gateway and preferred DNS server




3-3.6. Press the OK button than close this window. You have successfully change PC IP address.

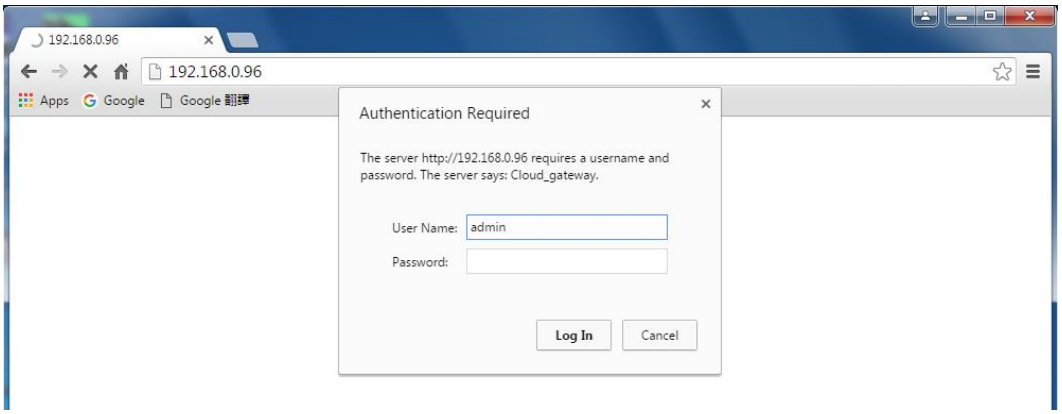
## WPC-132 Configuration

1. Visit Web page
   Press “Config” → “Device Settings” to setup device via browser.



2. Login page

Login page will be shown. Input ID & password (default no password).
Default ID: admin; no password.



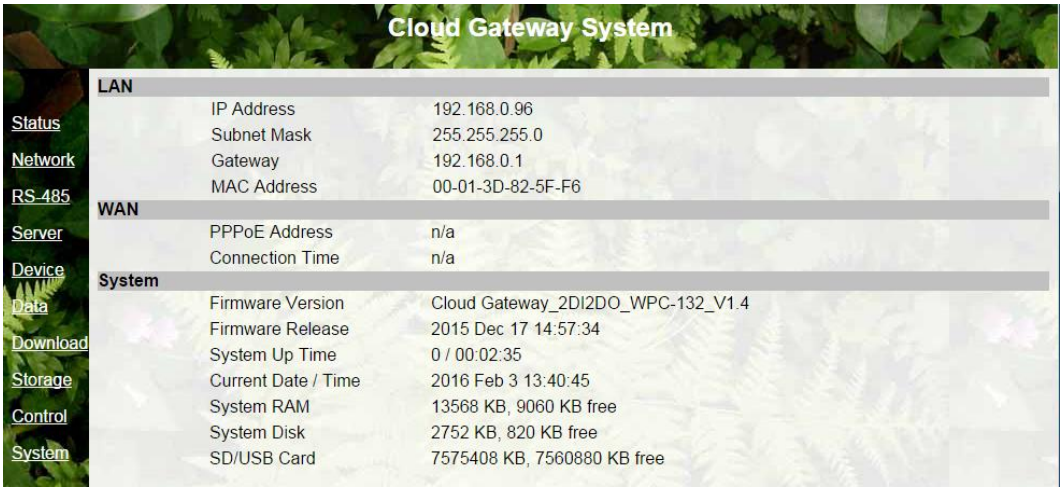

3. Quick glance

A quick glance of the web page items and its main functions


Note: After each setup, please do not forget to “save” the setting. The setting will be effective after WPC-132 “reboot” successfully.

4. Status page

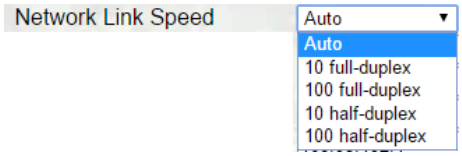
Status page is first shown up after log in. This page presents the general parameters of WPC-132 device.




5. Network page

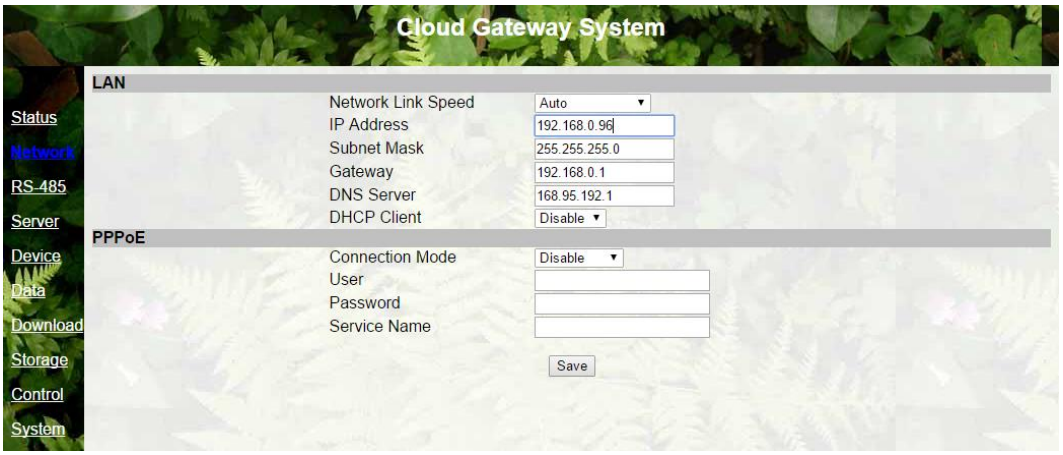
You can setup LAN and PPPoE parameters for Network connection.

5-1. Network Link Speed – default setting is “Auto”. For legacy equipment you may choose other setting to work the connection. There are




5-2. DHCP – In DHCP mode router or network switch will assign an available IP address in its network segment to WPC-132.

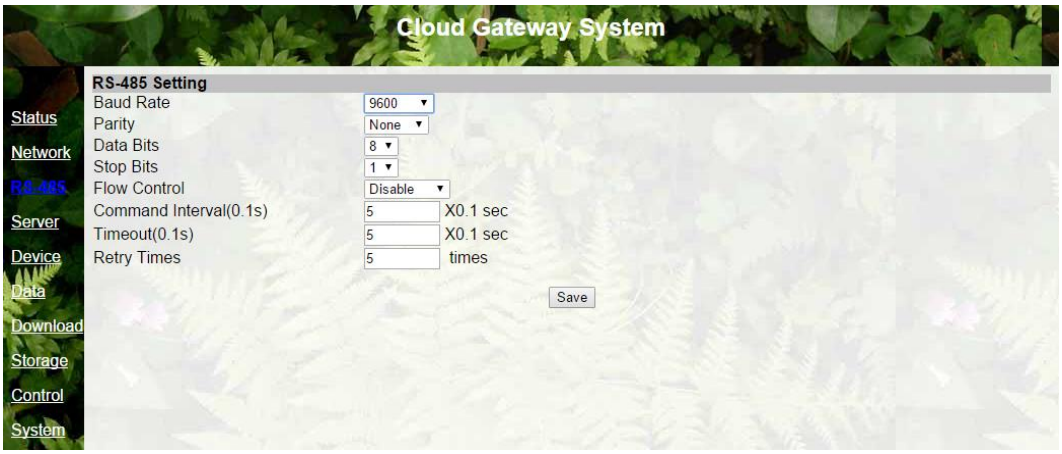
5-3. Static IP – Please input IP address; Subnet Mask; Gateway; DNS server information. Please consult with network professionals for parameters setup.




5-4. PPPoE – Please check with local Telecom operator for PPPoE account details. Enable PPPoE mode then input User; Password and Service Name.

6. RS-485 page
   Setup Serial Port parameters – general settings as Baud rate, Parity, Data bits, Stop bits and special settings as the followings.

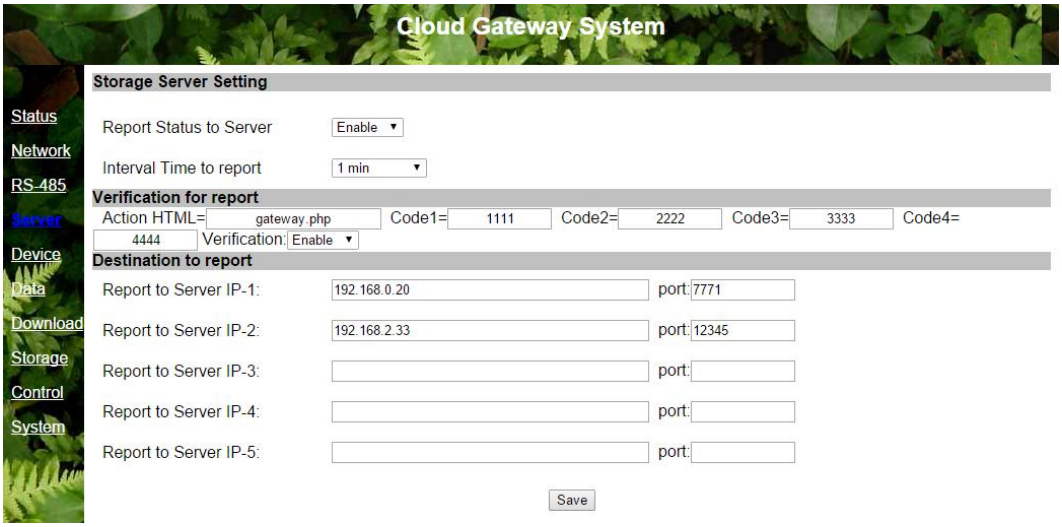
6-1. Flow Control – Disable, CTS/RTS. It is a hardware flow control mechanism to prevent buffer memory overrun.
6-2. Command Interval (0.1s) – Unit is 0.1 second. It is the time interval between every send-out-command.
6-3. Timeout (0.1s) – Unit is 0.1 second. It is the time interval between send-out-command and received-reply from RTU slave device. If there is no reply within the assigned time interval, it is recognize as a timeout and will retry send-out-command again.
6-4. Retry Times – Unit is times. Once there is timeout, WPC-132 will follow the setting to retry as many times as pre-assigned value.




7. Server page
   Set up parameters for remote servers to receive data.

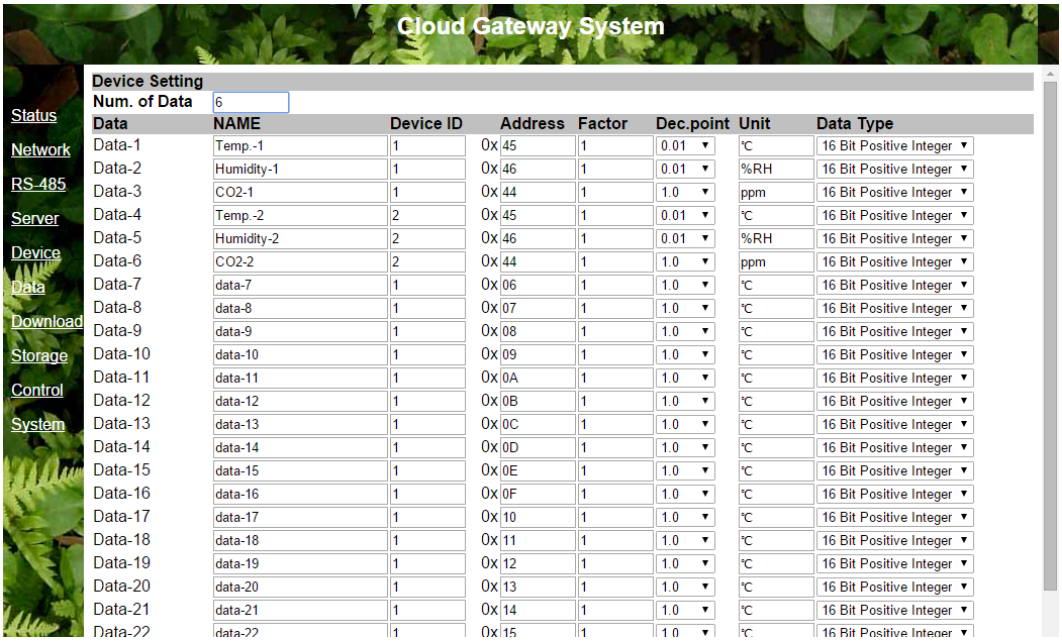
7-1. Storage server setting
7-1.1. Report status to server – enable / disable
7-1.2. Interval time to report – set up the time interval to report data

7-2. Verification for report – html parameters at server side to receive data. Software programmers can define their own terminologies and variables.
7-3. Destination to report – Remote servers IP address and Port numbers. WPC-132 is able to report data to 5 servers simultaneously.




8. RTU Device setting page

This page sets up Modbus RTU slave devices parameters




8-1. Number of Data – Define how many data to be read and shown. Maximum data number is 30.

8-2. Name – Name of data received from RTU meters.

8-3. Device ID – The RTU slave ID. Each slave device has a unique ID number.

8-4. Address – Input the holding register address inside the RTU meter within which data can be read.

Please check with the user manuals of RTU meters, referring to the section of Modbus register address. These registers store data such as measured value (℃, V, A, KWH, %RH, ppm,…), configuration parameters etc,...

For Modbus protocol please visit http://modbus.org/docs/PI_MBUS_300.pdf

### 8-4.1. Examples

Modbus slave device communication specification.

ModBus Specification

set 9600 n81

Func

3 Read ←

00H(00) ID

03H(03) BPS

04H(04) Set

44H(68) Co2 Value (ppm)

45H(69) Amb Value (1/100'C)

46H(70) RH Value (1/100 %)

**if read -100 means Module Error

6 Write

0 ID Change

A5xx (A5 for Check, xx for New ID)

Input these register addresses to setting page as below

| Data | NAME | Device ID | Address | Factor | Dec.point | Unit | Data Type |
|---|---|---|---|---|---|---|---|
| Data-1 | Temperature-1 | 1 | 0x 45 | 1 | 0.01 | ℃ | 16 Bit Positive Integer |
| Data-2 | Humidity-1 | 1 | 0x 46 | 1 | 0.01 | %RH | 16 Bit Positive Integer |
| Data-3 | CO2-1 | 1 | 0x 44 | 1 | 1.0 | ppm | 16 Bit Positive Integer |

8-5. Factor – an adjusted number multiply by decimal point to generate a correct data reading from Modbus meters.

8-6. Dec. point – adjusted number as Factor is. There are 0.001, 0.01; 0.1; 1. Total 4 options to be chose.

### 8-6.1. Example

03H(03) BPS

04H(04) Set — Decimal Point

44H(68) Co2 Value (ppm) → 1

45H(69) Amb Value (1/100'C) → 0.01

46H(70) RH Value (1/100 %) → 0.01

**if read -100 means Module Error

Input the decimal point to device setup page

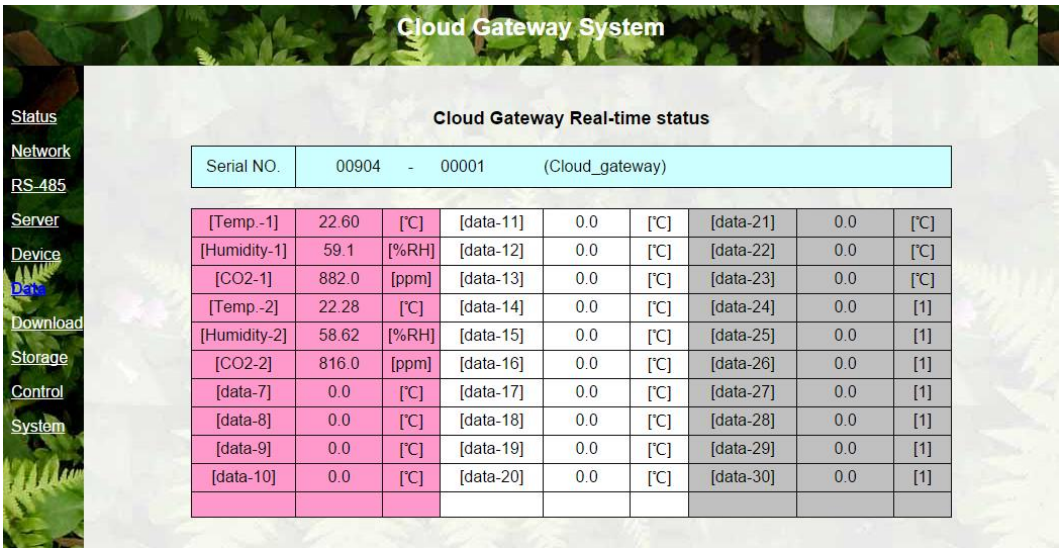
| Data | NAME | Device ID | Address | Factor | Dec.point | Unit | Data Type |
|---|---|---|---|---|---|---|---|
| Data-1 | Temp.-1 | 1 | 0x 45 | 1 | 0.01 | ℃ | 16 Bit Positive Integer |
| Data-2 | Humidity-1 | 1 | 0x 46 | 1 | 0.01 | %RH | 16 Bit Positive Integer |
| Data-3 | CO2-1 | 1 | 0x 44 | 1 | 1.0 | ppm | 16 Bit Positive Integer |

8-7. Unit – the unit of data read from Modbus meters such as ℃, V, A, KWH, %RH, ppm,…

8-8. Data type – there are 16, 32, 64 bits integers and positive integers. Check with the Modbus meter user manual for detail information.

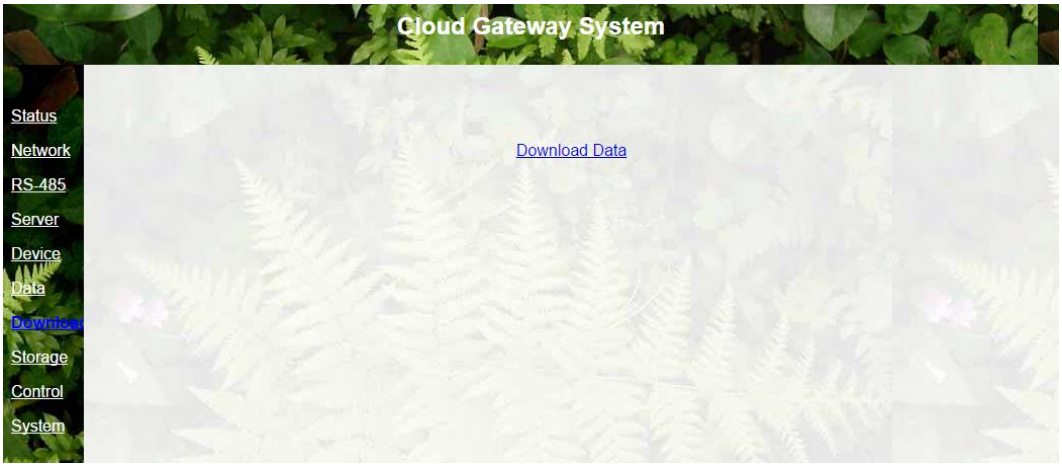
9. Real Time Data page

This page shows the real time data read from Modbus meters

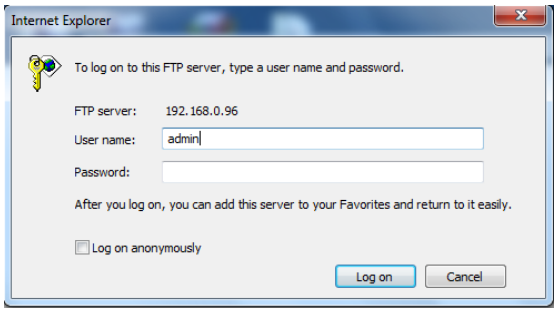



10. Data Download page

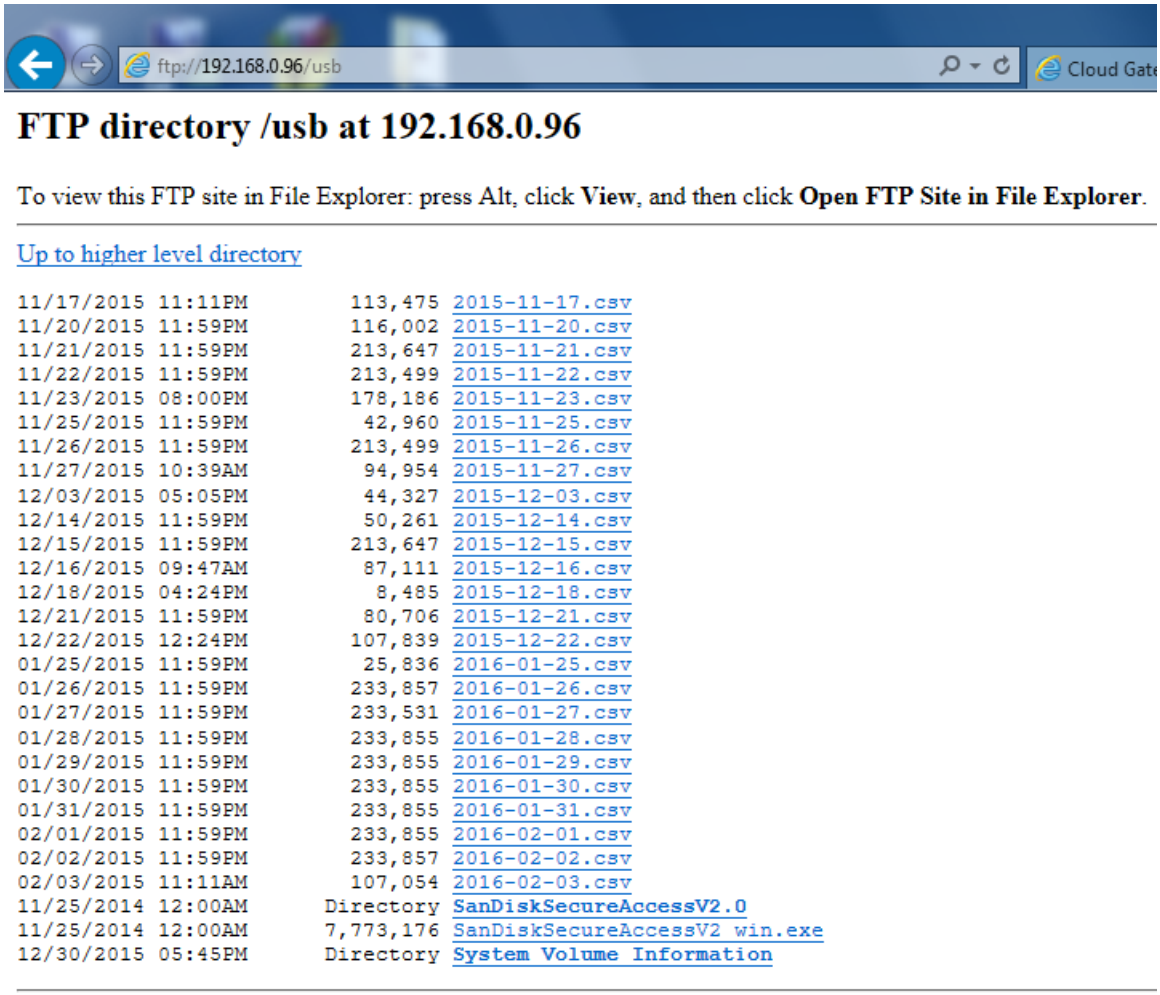
Data is ready to be downloaded via IE browser or FTP utilities. IE support FTP download, chrome does not.




10-1. IE Browser – Double click “Download Data” link. There is a pop up of authentication request.



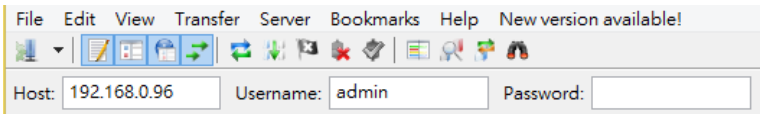

Type in ID & password (default ID: admin, no password). The file directory page will be shown. Double click the file name to download file from WPC-132 USB disk.

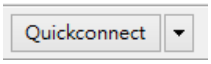



## 10-2. FTP utility

Use FTP utility to download data from WPC-132. Filezilla example as below

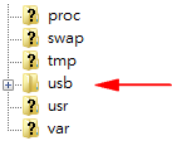
10-2.1. Input Host address, Username & Password



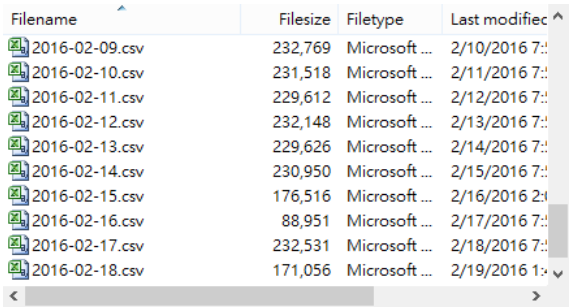

10-2.2. Quickconnect 


10-2.3. Start built connection with WPC-132

10-2.4. Connect successfully. File directory of WPC-132 is shown.




10-2.5. Click on USB to check the files. There are daily.csv files stored inside USB drive. Click on the file to start the download process.



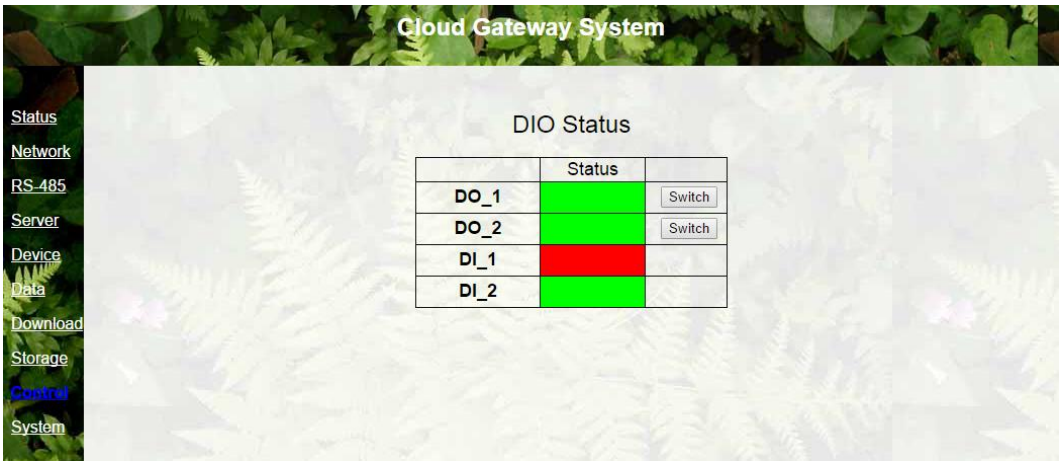
| Filename | Filesize | Filetype | Last modifiec |
|---|---|---|---|
| 2016-02-09.csv | 232,769 | Microsoft ... | 2/10/2016 7: |
| 2016-02-10.csv | 231,518 | Microsoft ... | 2/11/2016 7: |
| 2016-02-11.csv | 229,612 | Microsoft ... | 2/12/2016 7: |
| 2016-02-12.csv | 232,148 | Microsoft ... | 2/13/2016 7: |
| 2016-02-13.csv | 229,626 | Microsoft ... | 2/14/2016 7: |
| 2016-02-14.csv | 230,950 | Microsoft ... | 2/15/2016 7: |
| 2016-02-15.csv | 176,516 | Microsoft ... | 2/16/2016 2: |
| 2016-02-16.csv | 88,951 | Microsoft ... | 2/17/2016 7: |
| 2016-02-17.csv | 232,531 | Microsoft ... | 2/18/2016 7: |
| 2016-02-18.csv | 171,056 | Microsoft ... | 2/19/2016 1: |

11. Storage page

Setup USB drive enable/disable, storage interval time (minutes) and enable/disable Server storage function.

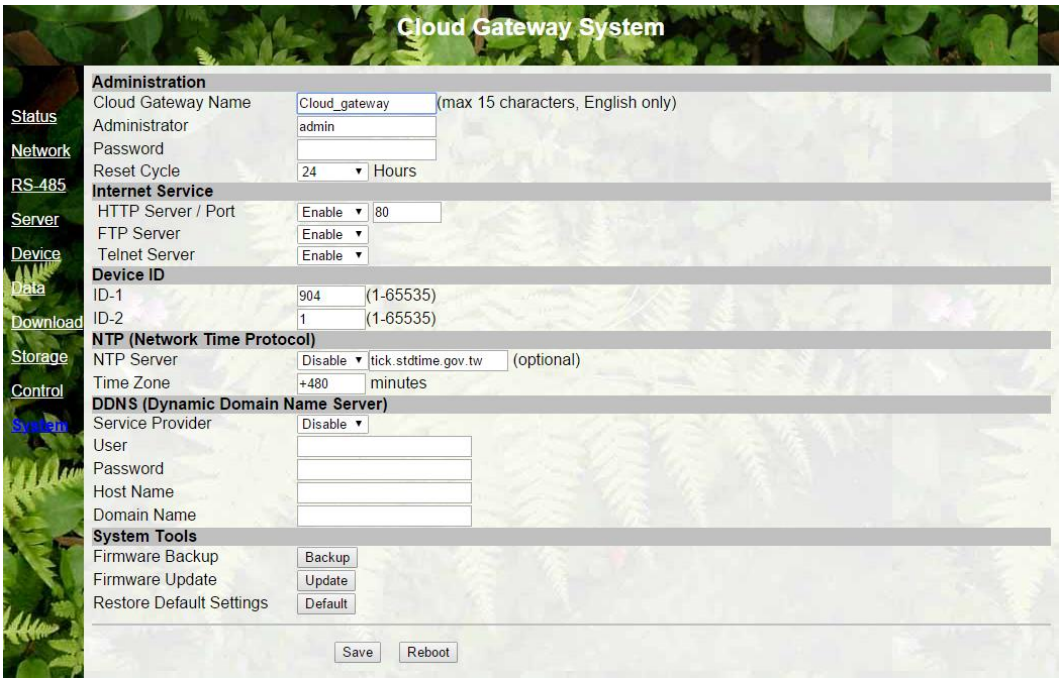
12. I/O Control page

Control digital output relay on/off status and read the status of digital input.




13. System page

Setup several system parameters




13-1. Administration – Setup device name, ID, Password and reset time.

13-2. Internet Service – Enable/disable HTTP, FTP and Telnet services

13-3. Device ID – Setup WPC-132 ID as a identify number for remote server to receive data transmission

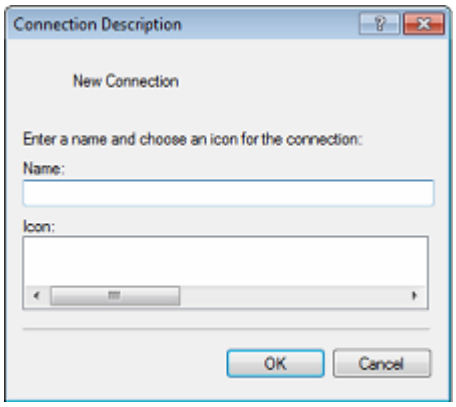
13-4. NTP – Setup NTP parameters

13-5. DDNS – Setup DDNS account information

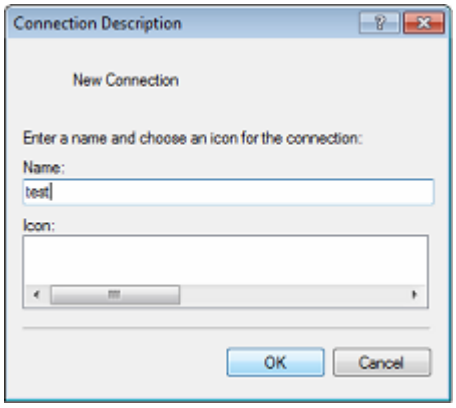
13-6. System Tools – Backup and upgrade firmware; restore to factory default setting.

## Testing procedure of data transmission

1. Open the Hyper Terminal

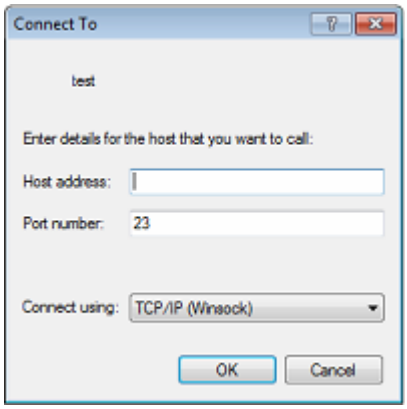


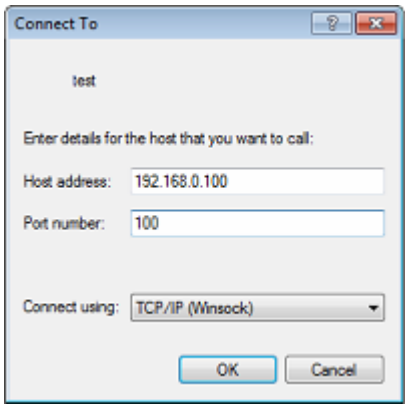

1-1. Key in a name for connection (ex. test) and then press OK



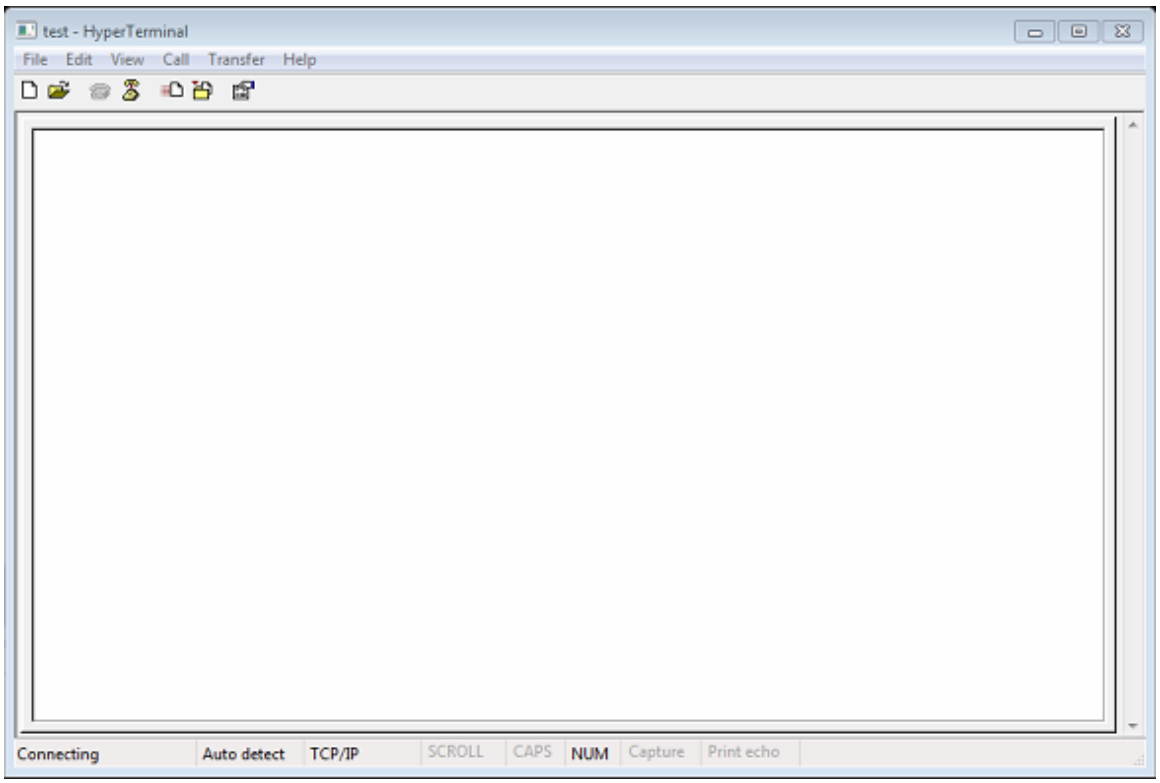

1-2. You will see following page. Choose TCP/IP, then press OK


1-3. Key in the Converter IP address and Socket port and then press OK



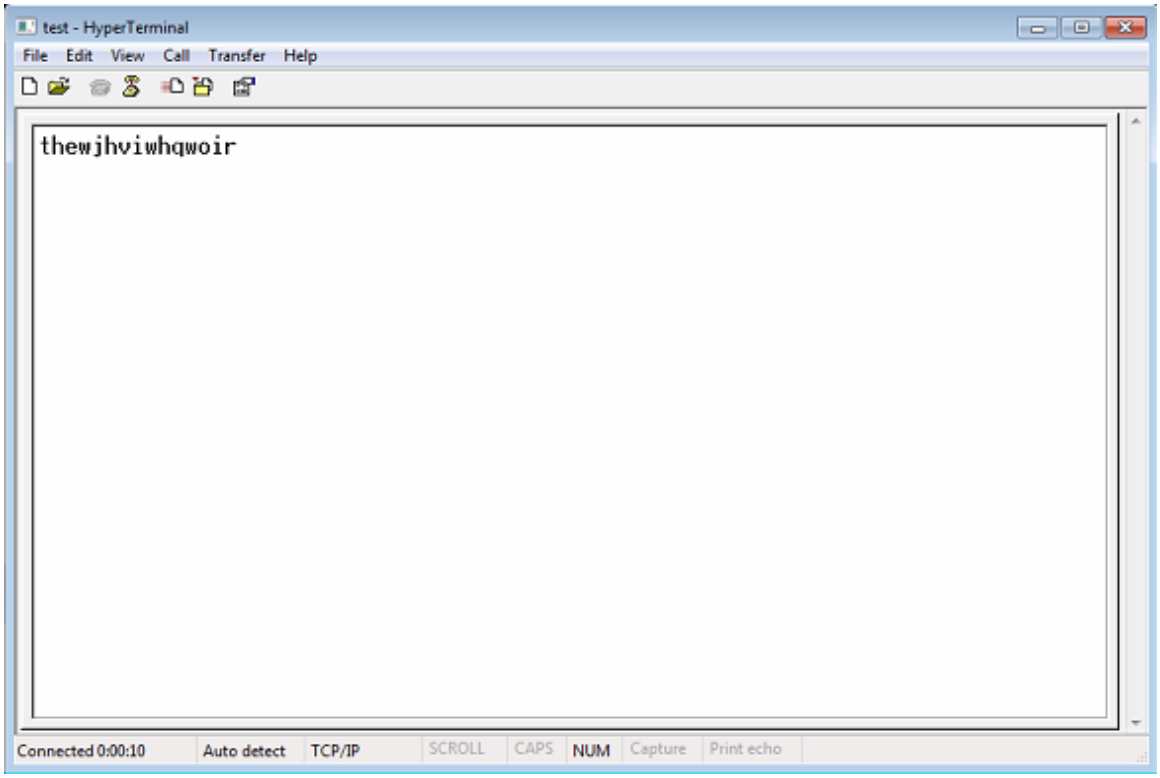

1-4. You will see HyperTerminal window




1-5. Echo Loop Test

Please short DB9 NO. 2 pin and NO.3 pin circuit, (in green Terminal Block - T+ connect to R+, T- connect to R- or TX connect to RX.)

1-6. Key in characters. the converter will echo back of the characters and shown on the screen




1-7. Congratulation. You had successfully set up the converter and start to use it