



## G07 User Manual

Ver. 1.05

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Congratulations for choosing a world-class Total Solution with Controller Gateway using ZigBee, Ethernet, and Wi-Fi wireless transmission technology. This manual is designed to help set up and get the most from the sensor in a few short minutes.

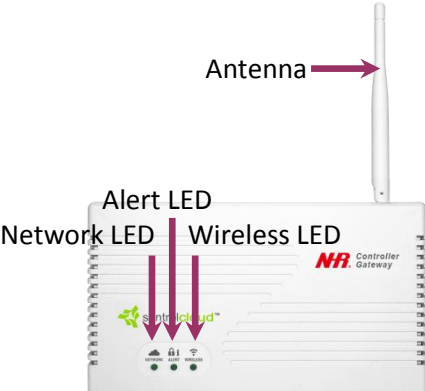
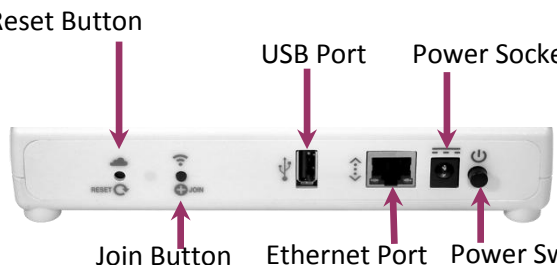


**Safety notice:** Please read and follow the instructions before using this product

- To prevent electrical shock or fire, do not disassemble or expose the unit to liquids of any kind.
- Only use attachments and / or accessories specified by the manufacturer.

## 1 Package Content and Views of G07

NHR G07 Controller Gateway	Mounting fixtures (mounting cradle, 4 wall plugs, 4 screws)	DC 12V Adapter
		

If any of the above is missing please contact your supplier.

Front	Bottom
	
Side	Back
	

## **2 Installing Mounting for G07**

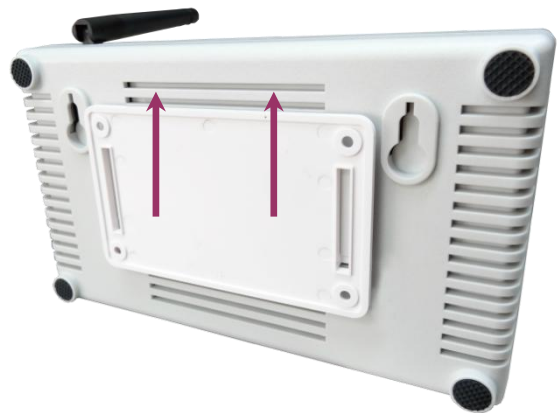
Requirements:

- Mounting fixtures
  - Drill with 5mm (0.2 inches) drill bit size (if using wall plugs) or 3.5mm (0.14 inches) drill bit size (if not using wall plugs)
  - Size 1 Phillips screwdriver
- a) Locate G07 with at least 15cm (approx.. 6 inches) spacing on each side (except on mounting side) avoiding the following sources of interference: direct sunlight, air flow from vents, fans, doors, windows, heaters, sources of steam, oil vapor, etc.
  - b) If necessary, pre-drill mounting holes using mounting cradle for alignment, then use appropriate drill bit to drill the holes – 5mm (approx. 0.2 inches) if using wall plugs or 3.5mm (approx. 0.14 inches) if not using wall plugs.
  - c) If necessary, use a hammer to insert wall plugs into the 4 holes.
  - d) Use size 1 Phillips screwdriver to fasten the screws securing the mounting cradle. Note: pay careful attention to the orientation of the mounting cradle.
  - e) Install and remove G07 using the following actions to ensure the mounting cradle has been correctly and securely installed and G07 can be installed and removed.

Install -



Remove -



Initial hardware installation for G07 has been successfully completed.

### 3 Powering On G07

Requirements:

- DC 12V Adapter

- Connect DC 12V adapter and plug into power socket.
- G07 will take about 1-2 minute(s) to boot up. During the booting process, the NETWORK and ALERT LEDs may both flash for about 2 seconds and light on for about 10 seconds.



- After successful booting process, G07's LEDs will indicate current status:



NETWORK LED	Status
Light on	Connected to the Cloud
Light off	Disconnected to the Cloud
Flashing	Reconnecting to the Cloud



ALERT LED	Alert Sound	Status
Light on	'Beep' x 30	Sentrol Cloud Away Mode (alarm is armed)
Flashing rapidly	Long 'Beep'	Sentrol Cloud Panic Mode (alarm is activated)
Flashes 5 times, then light off	N/A	Sentrol Cloud Home Mode (alarm is disarmed)
1 Flash every 5 seconds	'Beep' x 3	Sentrol Cloud Night/Sleep Mode (alarm is partially armed)



WIRELESS LED	Status
Light off	Stand by
1 flash every 2 or 3 seconds	Permit others to join
2 flashes	Device is joining or rejoining the Gateway and functioning normally
5 flashes	Device is removing from the Gateway

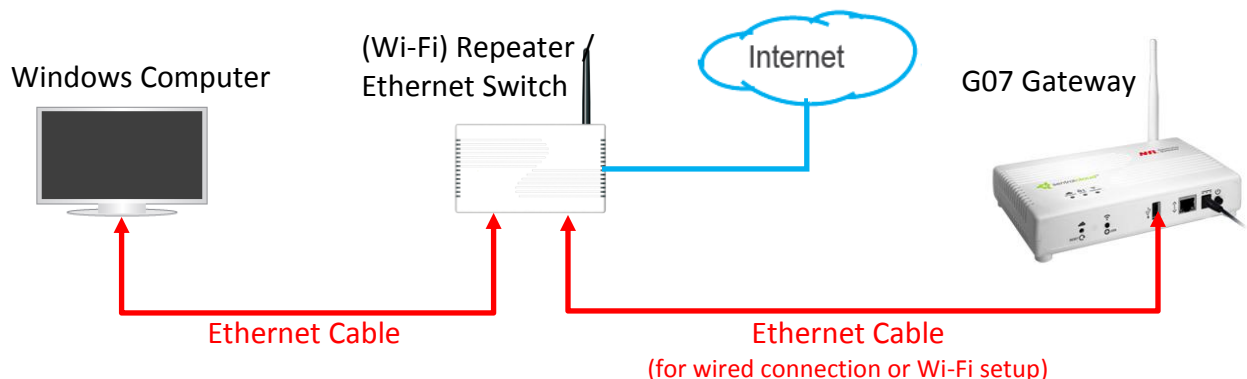
G07 has been successfully powered on.

#### 4 Connecting G07 to the Network

Requirements:

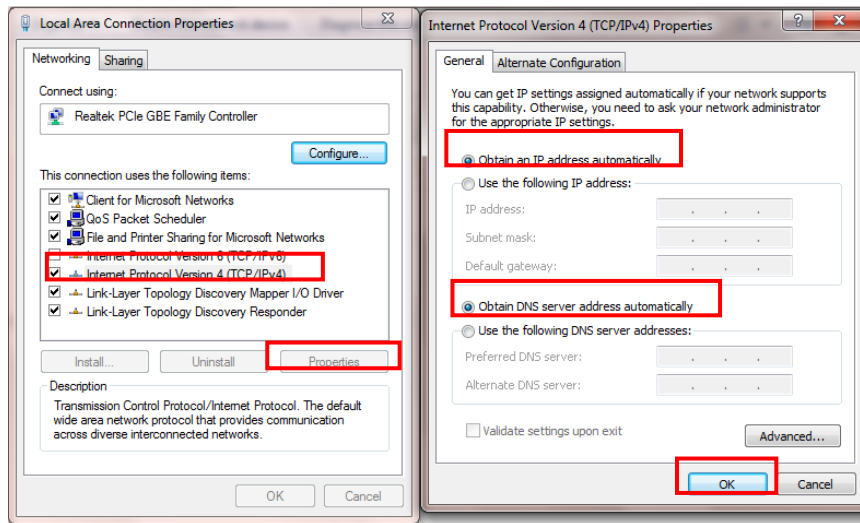
- Ethernet Cable(s)
- Computer (running Windows)
- Repeater or Ethernet switch (supporting DHCP connection mode) with internet connection and an available Ethernet LAN port reserved for G07

**NOTE:** If you want to use Wi-Fi connection, please use a Wi-Fi repeater with several available Ethernet LAN ports, or you can include a Wi-Fi repeater or access point within the same local network hosting both your computer and your G07.



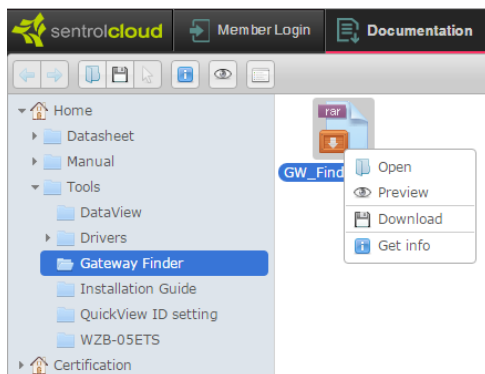
- If necessary, remove G07 from the mounting cradle.
- Power on G07 (See **"Powering On G07"**).
- Make sure your computer is connected to the repeater or Ethernet switch with internet connection.

- d) Initially your G07's connection mode is set to DHCP (Dynamic Host Configuration Protocol) right out of the factory. When your computer is connecting to your G07 for the first time, your computer's connection mode needs to be set to DHCP. (Using Windows 7 as an example) Go to **Start -> Control Panel -> Network and Sharing Center -> Change adapter settings -> Local Area Connection -> Properties -> Internet Protocol Version 4 (TCP/IPv4) -> Properties**. Make sure that the options **Obtain an IP address automatically** and **Obtain DNS server address automatically** are selected. Click **OK**.

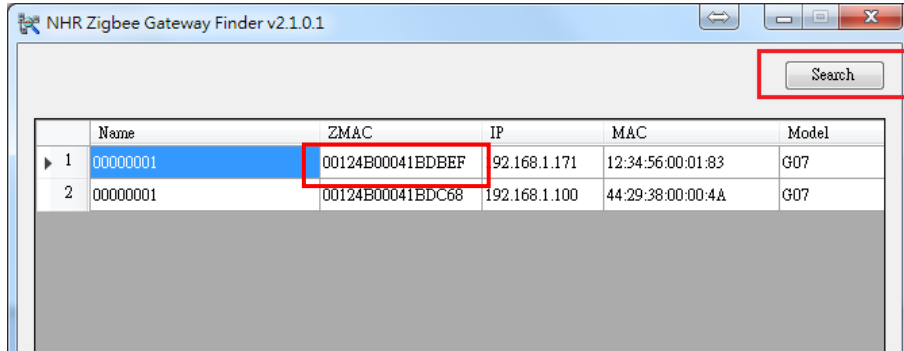


- e) Use an Ethernet cable to connect G07 to *the same* repeater or Ethernet switch that your computer is connected to, or you can use an Ethernet cable to connect G07 to a repeater or Ethernet switch that belong to *the same* local area network (with internet connection) of your computer.
- f) Open a web browser on your computer and go to the website <http://www.sentrolcloud.com/nhr/view/front/download.php>.

Please go to the folder **Home -> Tools -> Gateway Finder**. Right-click the **GW\_Finder** RAR file icon and select **Download**, then uncompress and install **Gateway Finder** to your computer.



- g) Launch **Gateway Finder**. Click **Search** to search and display all of your G07 gateway(s) within the same local network of your repeater or Ethernet switch, then double-click the MAC address of your gateway (or you can manually open a web browser and manually enter the IP address of your gateway).



**NOTE:** Your G07 may take about 1-2 minutes to boot. If you cannot find your gateway in Gateway Finder, you may wait for your G07 to finish booting and search again.

- h) When the login page appears, enter the username and password (default username and password are both '**admin**'), then click **Login** to enter the G07 Web Setting Homepage.



## Gateway Web Setting

Username :	<input type="text"/>
Password :	<input type="password"/>
<input type="button" value="Login"/>	

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## 5 Configuring G07 in the Web Setting Homepage

- a) Your G07's Web Setting Homepage has the following categories and sub-categories:

Category	Sub-categories
Network Setting	Ethernet Setting, WiFi Setting, Cloud Server Setting, 3G Setting
Date/Time	Time Setting
Management	Language, Account/Password, Automatic Logout Time, Initialize, Save/Restore, Upgrade, Reboot
ZigBee Status	Coordinator Information, End Device Information

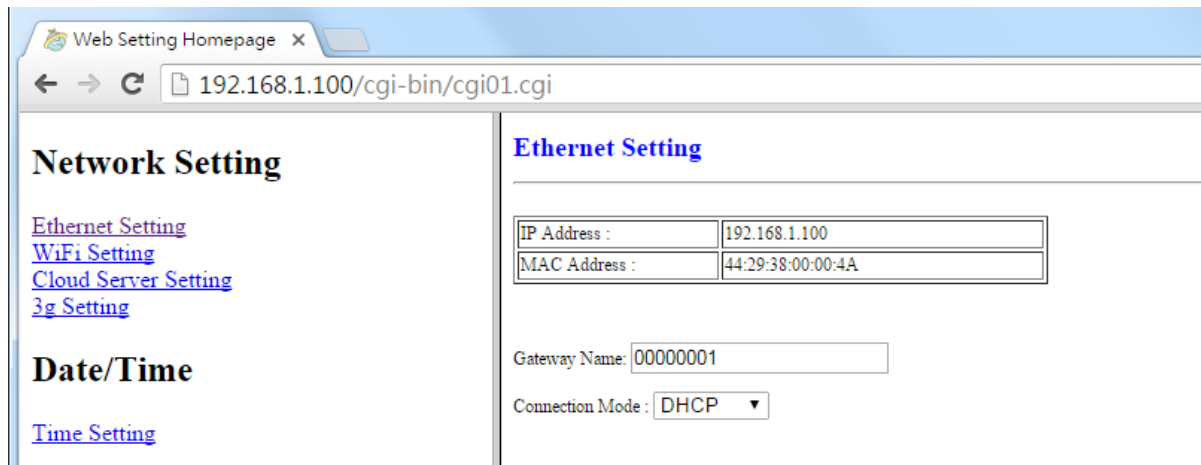
- b) Unless stated otherwise, after making any changes in the G07 Web Setting Homepage, you will need to click **Confirm the change** and let your G07 reboot (to make the changes effective).

<input type="button" value="Confirm the change"/>	<input type="button" value="Cancel"/>
---	---------------------------------------

### c) Network Setting:

This category sets G07's local and internet network options. G07 provides Ethernet, Wi-Fi, and 3G options to connect to a computer or to the cloud. When G07 is powered on or rebooted, it will first search Ethernet for network connections. If no network connection exists on the Ethernet, G07 will then sequentially search Wi-Fi and 3G for network connections. Once the network connection to the cloud is successfully established, G07 will not change the network connection until G07 is rebooted.

#### ■ Ethernet Setting :



The screenshot shows a web browser window titled "Web Setting Homepage" with the address bar displaying "192.168.1.100/cgi-bin/cgi01.cgi". The main content area is divided into two sections. On the left, under "Network Setting", there are links for "Ethernet Setting", "WiFi Setting", "Cloud Server Setting", and "3g Setting". Below these links is a "Date/Time" section with a "Time Setting" link. On the right, under "Ethernet Setting", there are input fields for "IP Address" (192.168.1.100) and "MAC Address" (44:29:38:00:00:4A). Below these is a "Gateway Name" field (00000001) and a "Connection Mode" dropdown menu set to "DHCP".

- Gateway Name: Enter a name for your gateway (maximum 8 alphanumeric characters).
- Connection Mode: Select either **Static IP** or **DHCP** (default setting is **DHCP**). Normally the connection mode is set to **DHCP** as this mode is much easier to use for most users. However, if you want to use your G07 in a network environment with static IP infrastructure, you can also change the connection mode to **Static IP** before you adopt your G07 to that network environment. In this case, you will need to manually assign the following additional parameters: IP Address, Subnet Mask, Default Gateway, DNS 1, and DNS 2. Please consult your network administrator for more details on these parameters.

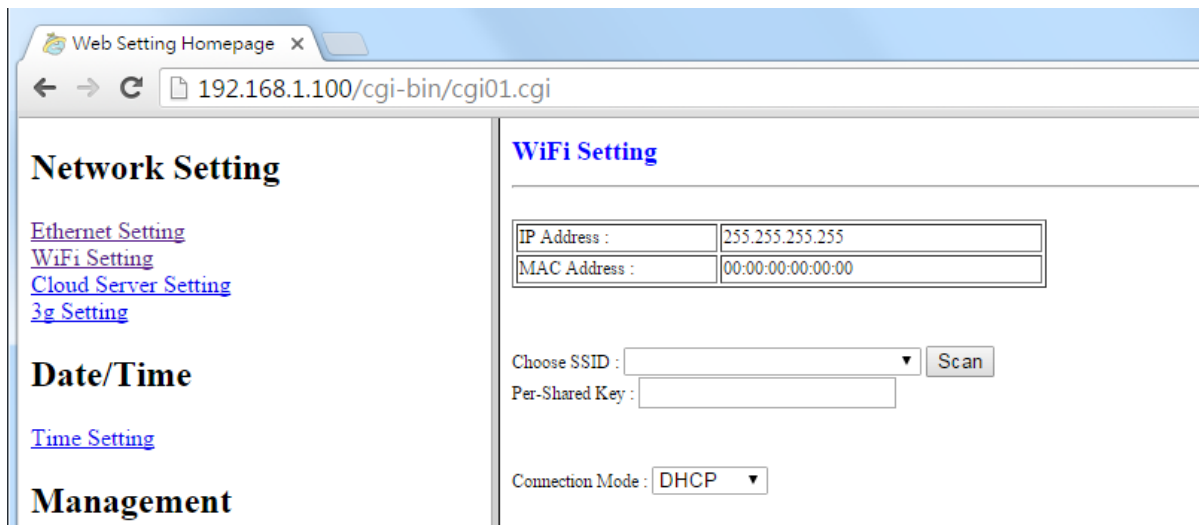
**NOTE:** If you set connection mode to **Static IP**, after G07 has rebooted you will need to use the IP address assigned to your G07 in order to login to its Web Setting Homepage.

Connection Mode :

IP Address :   
 Subnet Mask :   
 Default Gateway:   
 DNS 1 :   
 DNS 2 :



- Wi-Fi Setting: If you want to use Wi-Fi connection, please disconnect the Ethernet from your G07 after completing Wi-Fi settings below, then reboot your G07.



Web Setting Homepage x

192.168.1.100/cgi-bin/cgi01.cgi

**Network Setting**

[Ethernet Setting](#)  
[WiFi Setting](#)  
[Cloud Server Setting](#)  
[3g Setting](#)

**Date/Time**

[Time Setting](#)

**Management**

**WiFi Setting**

IP Address : 255.255.255.255  
 MAC Address : 00:00:00:00:00:00

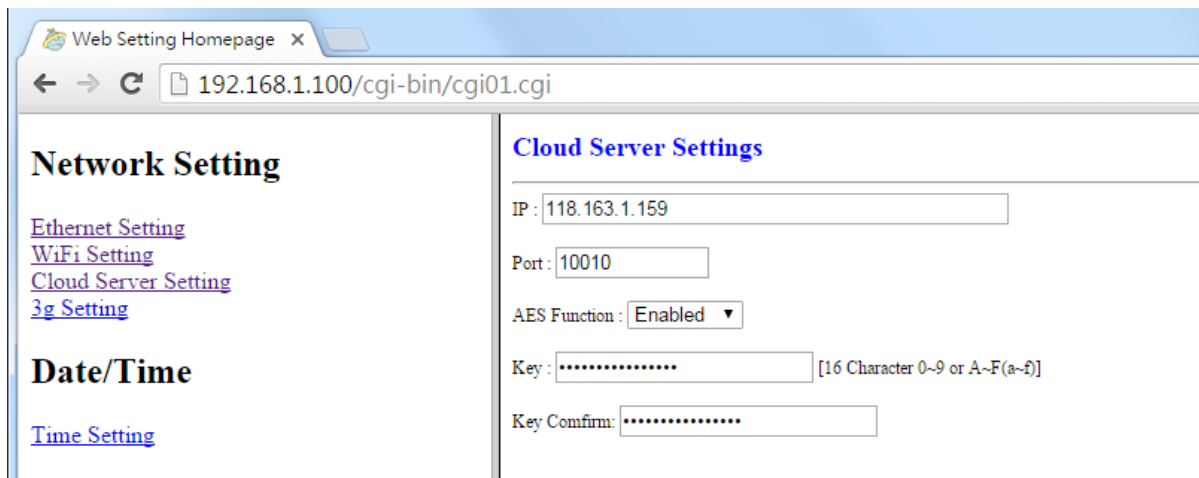
Choose SSID :  Scan

Per-Shared Key :

Connection Mode : DHCP

- Choose SSID : First click **Scan** to search for available Wi-Fi SSIDs nearby, then choose a Wi-Fi SSID from the drop-down menu.  
**NOTE:** Make sure that the SSID does not contain non-alpha-numeric characters.
- Per-Shared Key : Enter the password for the chosen Wi-Fi SSID.  
 Connection Mode : Same as that of Ethernet Setting. You can choose either **Static IP** or **DHCP** (we recommend you to choose **DHCP**).

- Cloud Server Setting: Sets parameters required for your G07's cloud connection.



Web Setting Homepage x

192.168.1.100/cgi-bin/cgi01.cgi

**Network Setting**

[Ethernet Setting](#)  
[WiFi Setting](#)  
[Cloud Server Setting](#)  
[3g Setting](#)

**Date/Time**

[Time Setting](#)

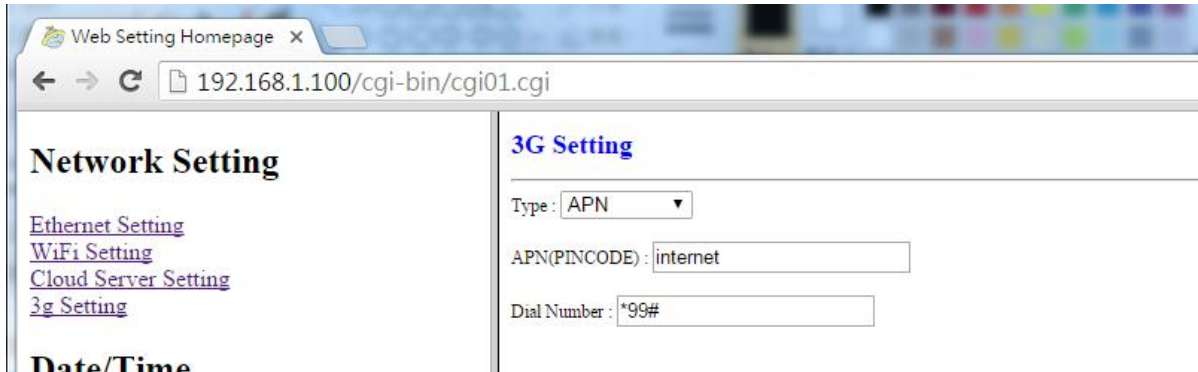
**Cloud Server Settings**

IP : 118.163.1.159  
 Port : 10010  
 AES Function : Enabled

Key : ..... [16 Character 0~9 or A~F(a~f)]  
 Key Confirm : .....

- IP : The default IP address is that of Nietzsche Sentrol Cloud server, **119.163.1.159**. If you want to connect to another cloud server, you can change the IP address to that of another cloud server.
- Port: Default value is 10010.
- AES Function: Enables or disables AES encryption for data transmission (**Enabled** / **Disabled**). The default option is **Enabled**. The use of AES encryption depends on the cloud server to be connected to. If the cloud server requires AES encryption, then AES Function needs to be set as **Enabled**.

- Key: AES Encryption Key. When AES encryption is enabled for data transmission, the key entered in your gateway must match the key of the cloud server; otherwise the communication will not be enabled.
  - Key Confirm: Enter the AES Encryption Key again for confirmation.
- **3G Setting** : If you want to use 3G connection, please disconnect the Ethernet from your G07 after completing 3G settings below, then reboot your G07.



Web Setting Homepage

192.168.1.100/cgi-bin/cgi01.cgi

**Network Setting**

[Ethernet Setting](#)  
[WiFi Setting](#)  
[Cloud Server Setting](#)  
[3g Setting](#)

**3G Setting**

Type:

APN(PINCODE):

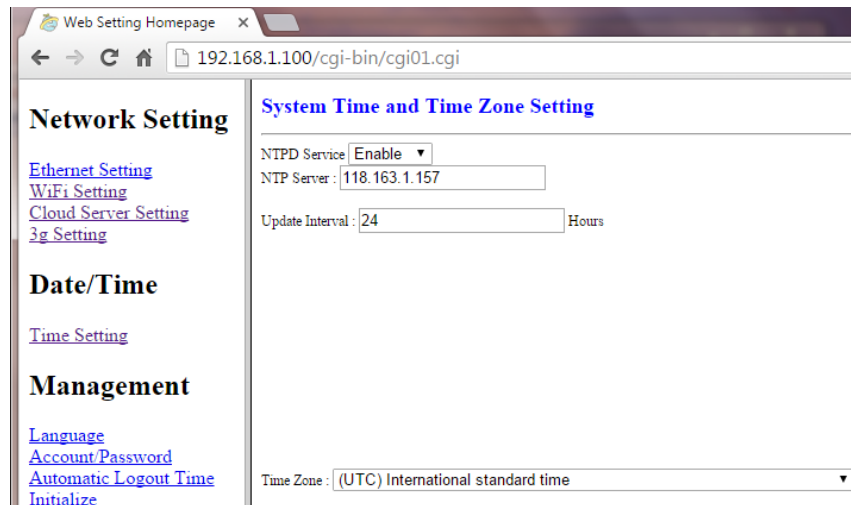
Dial Number:

**Date/Time**

Please select or enter information provided by your 3G network service provider.

d) **Date/Time:**

- **Time Setting:** Set up your G07's System Time and Time Zone settings by configuring the following parameters:



Web Setting Homepage

192.168.1.100/cgi-bin/cgi01.cgi

**Network Setting**

[Ethernet Setting](#)  
[WiFi Setting](#)  
[Cloud Server Setting](#)  
[3g Setting](#)

**Date/Time**

[Time Setting](#)

**Management**

[Language](#)  
[Account/Password](#)  
[Automatic Logout Time](#)  
[Initialize](#)

**System Time and Time Zone Setting**

NTPD Service:

NTP Server:

Update Interval:  Hours

Time Zone:

NTPD Service: Enables or disables NTPD (Network Time Protocol Daemon, a service that automatically synchronizes G07's current date and time settings periodically) (**Enable / Disable**). The default option is **Enable**.

If NTPD is enabled, specify NTP Server and Update Interval.

NTPD Service:    
 NTP Server:   
 Update Interval:  Hours

NTP Server: Specify the NTP Server's IP address (default is 118.163.1.157).

Update Interval: Specify the time interval after which your G07 will update time with the NTP server (default is every 24 hours).

If NTPD is disabled, manually specify Current Time.

NTPD Service:    
 Current Time:  /  /   :  :

Current Time: A snapshot of current date and time will be displayed in text boxes (example shown above is: 2016/3/15 08:00:17). You can change date/time directly by modifying numeric values in these text boxes.

Time Zone: Select the time zone of your region from the dropdown list.

Time Zone:

#### e) Management:

Web Setting Homepage x

192.168.1.100/cgi-bin/cgi01.cgi

**Network Setting**

[Ethernet Setting](#)  
[WiFi Setting](#)  
[Cloud Server Setting](#)  
[3g Setting](#)

**Date/Time**

[Time Setting](#)

**Management**

[Language](#)  
[Account/Password](#)  
[Automatic Logout Time](#)  
[Initialize](#)  
[Save/Restore](#)  
[Upgrade](#)  
[Reboot](#)

**Language Setting**

Please select a language:

- **Language:** Select a language (including English, Traditional Chinese, and Simplified Chinese) for this web setting homepage. You will need to refresh the webpage or re-login for this change to take effect.
- **Account/Password:** The default username and password are both '**admin**'. You may enter your own username and password. Note that after setting and applying your own username and password, you will be automatically logged out, then you will need to use your own username and password to login. The previous username and password will be unusable.

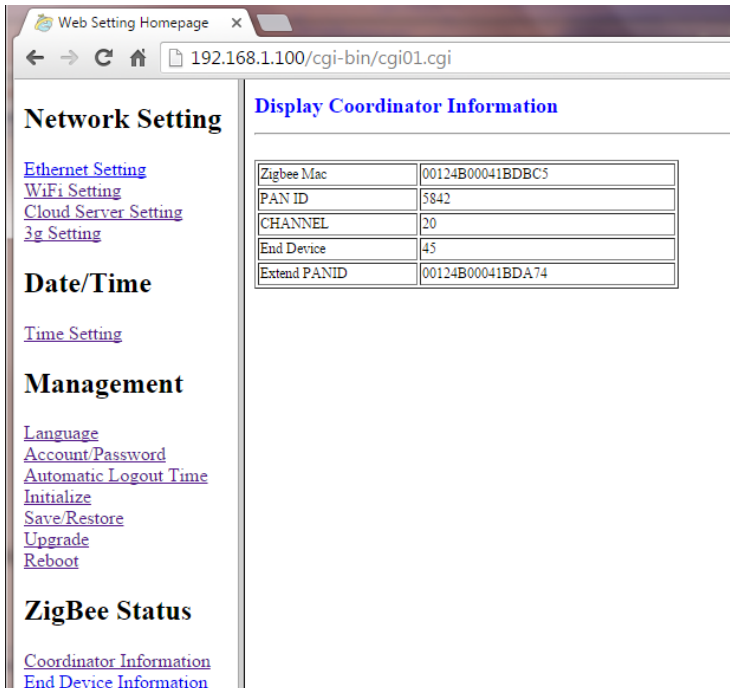
- Automatic Logout Time: Sets the allowed time period of user inactivity before automatic logout occurs.
- Initialize: Resets this web setting homepage to factory default values. You can also press and hold (with a sharp-pointed instrument) the hardware **Reset** button for 30 seconds for the same initialization.
- Save / Restore: Click **Download Profile** to save your G07 settings (configured in this web setting homepage) as a G07 profile file on your computer, or click **Upload Profile** to restore your G07 settings from a previously saved G07 profile file on your computer.
- Upgrade: Displays your G07's current firmware version with the online firmware upgrade option. There are two ways to upgrade your G07 to the latest firmware:

Method 1 – Click **Internet Upgrade** and follow screen instructions.

Method 2 – Download the latest G07 firmware file to an USB drive's root directory. Insert the USB drive to your operating G07's USB port. When the NETWORK and WIRELESS LEDs flash simultaneously, the upgrade is complete. (Using a sharp-pointed instrument) Press the hardware **Reset** button to reboot G07 with the upgraded firmware.

- Reboot: Click **Reboot** to restart your G07, as this action is required for any changes made in this web setting homepage to be effective (unless stated otherwise).

#### f) ZigBee Status :



The screenshot shows a web browser window with the address bar displaying '192.168.1.100/cgi-bin/cgi01.cgi'. The page title is 'Web Setting Homepage'. The main content area is divided into two sections: 'Network Setting' and 'Display Coordinator Information'.

**Network Setting** includes links for Ethernet Setting, WiFi Setting, Cloud Server Setting, 3g Setting, Date/Time (Time Setting), and Management (Language, Account/Password, Automatic Logout Time, Initialize, Save/Restore, Upgrade, Reboot).

**ZigBee Status** includes links for Coordinator Information and End Device Information.

**Display Coordinator Information** shows a table with the following data:

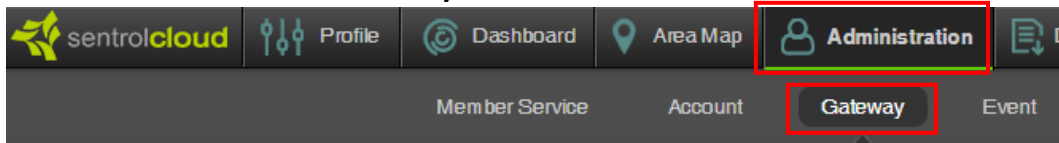
Zigbee Mac	00124B00041BDBC5
PAN ID	5842
CHANNEL	20
End Device	45
Extend PANID	00124B00041BDA74

- Coordinator Information: You will see information relevant to your coordinator, e.g. End Device (the number of end devices [i.e. child devices] connected to your gateway).
- End Device Information: Displays technical information for all of your connected end devices (i.e. child devices).

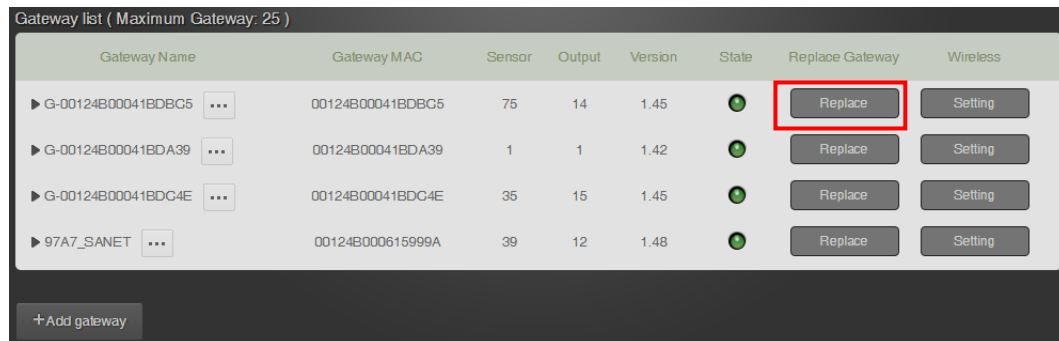


## 7 Replacing G07 in Existing IoT Network

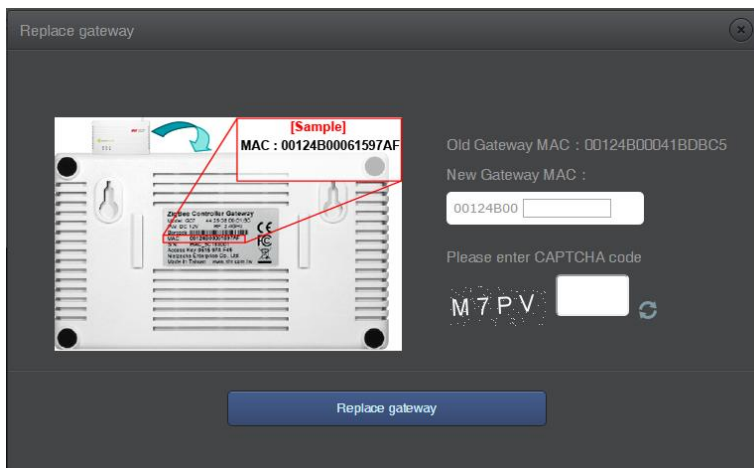
- Login to Sentrol Cloud with your Sentrol Cloud account: <http://www.sentrolcloud.com> .
- Select **Administration** → **Gateway**.



- Find the old gateway to be replaced and click that gateway's corresponding **Replace** button.



- Enter the last 8 digits of your new gateway's MAC address (under "New Gateway MAC") and the on-screen CAPTCHA code, then click **Replace Gateway**. All profiles that have been using the old gateway for IoT communications will now use the new gateway for the same IoT communications.



## **8 Joining Other Devices to G07's IoT Network**

Requirements:

- Child device, such as repeater (eg. WZB-01USBR, WZB-02485R), or end device (eg. STH-01 series, STH-03ZB, S05 series)
  - Sharp pointed tool (if needed)
- a) Ensure G07 is powered on (see “**Powering On G07**”) and ready to receive data from the Child Device.
  - b) Ensure child device(s) to be joined to G07's IoT network is/are in **Ready to Join** status (see relevant device's manual).
  - c) Apply 1 quick press to the **Join** button on G07, the green LED will flash once every 3 seconds for up to 60 seconds to indicate the **Permit Join** status, allowing other devices to join to its IoT (Internet of Things) network.
  - d) Check the status of the device to confirm it has been connected (see relevant device's manual).
  - e) Repeat the above steps until all devices have been added successfully.

## **9 Removing Devices from G07's IoT Network**

Requirements:

- Child device, such as repeater (eg. WZB-01USBR, WZB-02485R), or end device (eg. STH-01 series, STH-03ZB, S05 series)
  - Sharp pointed tool (if needed)
- a) Ensure G07 is powered on (see “**Powering On G07**”).
  - b) Ensure the devices are powered on (see relevant devices' manual) and is connected to G07 or its repeaters.
  - c) Reset the child device (see relevant device's manual; for Nietzsche IoT child devices, the reset operation is to press and hold the S1 link switch for 3-5 seconds).
  - d) Check the status of the device to confirm it has been removed (see relevant device's manual).
  - e) G07's Wireless LED should return to light off.

## 10 Reset

Requirements:

- Sharp-pointed instrument

### a) Network Reset:

In the case where the G07 is no longer connected to the cloud, G07 will need to be reset by applying a 10-second press to the **Reset** button (with a sharp-pointed instrument) until both the Network LED and Wireless LED flash 3 times together. Then the Network LED will flash 3 times to restart the gateway connection with the cloud.

**Note:** After reset, the G07 will restore all the default settings such as those of Ethernet, Wi-Fi, ID/Password, etc.

**Recommendation:** Before removing power from G07 or resetting, please ensure its repeater capability is no longer needed on the network by child device(s). Once G07 has been reset, it is suggested to remove power from the G07 when not in use to reduce power wastage, RF traffic.

## 11 Product Specifications

<b>Aggregator Network</b>	ZigBee Home Automation
<b>Connection to Cloud</b>	Ethernet (default), WiFi, cellular (optional)
<b>Internet Functionality</b>	DHCP/ Static IP Web Setting
<b>Nodes/Device Capacity</b>	40 sensors, 10 actuators simultaneously
<b>Wireless Network Protocol</b>	IEEE 802.15.4, ZigBee2007 / PRO HA Profile
<b>Transmission Range</b>	Up to 300m / 984ft
<b>Operating Frequency</b>	2.4GHz ISM band
<b>RF Output Power</b>	18dBm
<b>Receiver Sensitivity</b>	-92dBm
<b>Power Consumption</b>	260mA in average
<b>Transmission Interval</b>	Always Standby
<b>Network Topology</b>	Star/ Tree/ Mesh
<b>Power Supply</b>	AC 100V~240V to DC 12V adapter
<b>Operating Environment</b>	-10 ~ +60°C, < 80% relative humidity
<b>Dimensions</b>	175(L) x 103(W) x 35(H) mm
<b>Weight</b>	255g



<b>Certifications</b>	CE/ FCC	
<b>Security Mechanism</b>	AES128Bit Encryption	
<b>Connectors</b>	RJ45 for Ethernet, 1 x USB , DC jack DC 12V adapter, SMA antenna	
<b>LED Indications</b>	Network (Ethernet/ WiFi/ Cellular), Alert, Wireless (ZigBee)	
<b>Zero data-loss</b>	Built-in 1G memory card when connection to Cloud is lost	
<b>Enabling Devices</b>	End Device	NHR HA Devices
	Repeater	S05-R / WZB-01USBR / WZB-02485R
<b>Interoperability</b>	Sentrol Cloud	

**Thank you** for choosing NHR's G07 Gateway. We are looking forward to working with you!