

**Industrial/Vehicle 5G NR Cellular Gateway with
M12 PoE+**

VCG-2406WP-NR

Quick Installation Guide

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1. Package Contents

Thank you for purchasing PLANET Industrial/Vehicle 5G NR Cellular Gateway, VCG-2406WP-NR. The hardware specifications of this model is as follows:

- 4 x M12 X-coded Ethernet ports
 - Port 1~2: PoE+ output (IEEE 802.3at)
 - Port 3: LAN
 - Port 4: Configurable as LAN/WAN
- Dual-band Wi-Fi 6 (2.4GHz + 5GHz)
- 2 x Nano SIM card slots

“**Cellular Gateway**” is used as an alternative name in this Quick Installation Guide.

Open the box of the **Cellular Gateway** and carefully unpack it. The box should contain the following items:

- VCG-2406WP-NR x 1
- QR code Sheet x 1
- 2m 8-pin X-coded M12-to-RJ45 UTP cable x 1
- 5G NR antenna x 4
- 5G NR antenna Extender with Magnetic Base x 4
- Wi-Fi dual-band antenna x 2
- Wall-mounted kit x 1 set
- M12 Dust Cap x 6

If any item is found missing or damaged, please contact your local reseller for replacement.

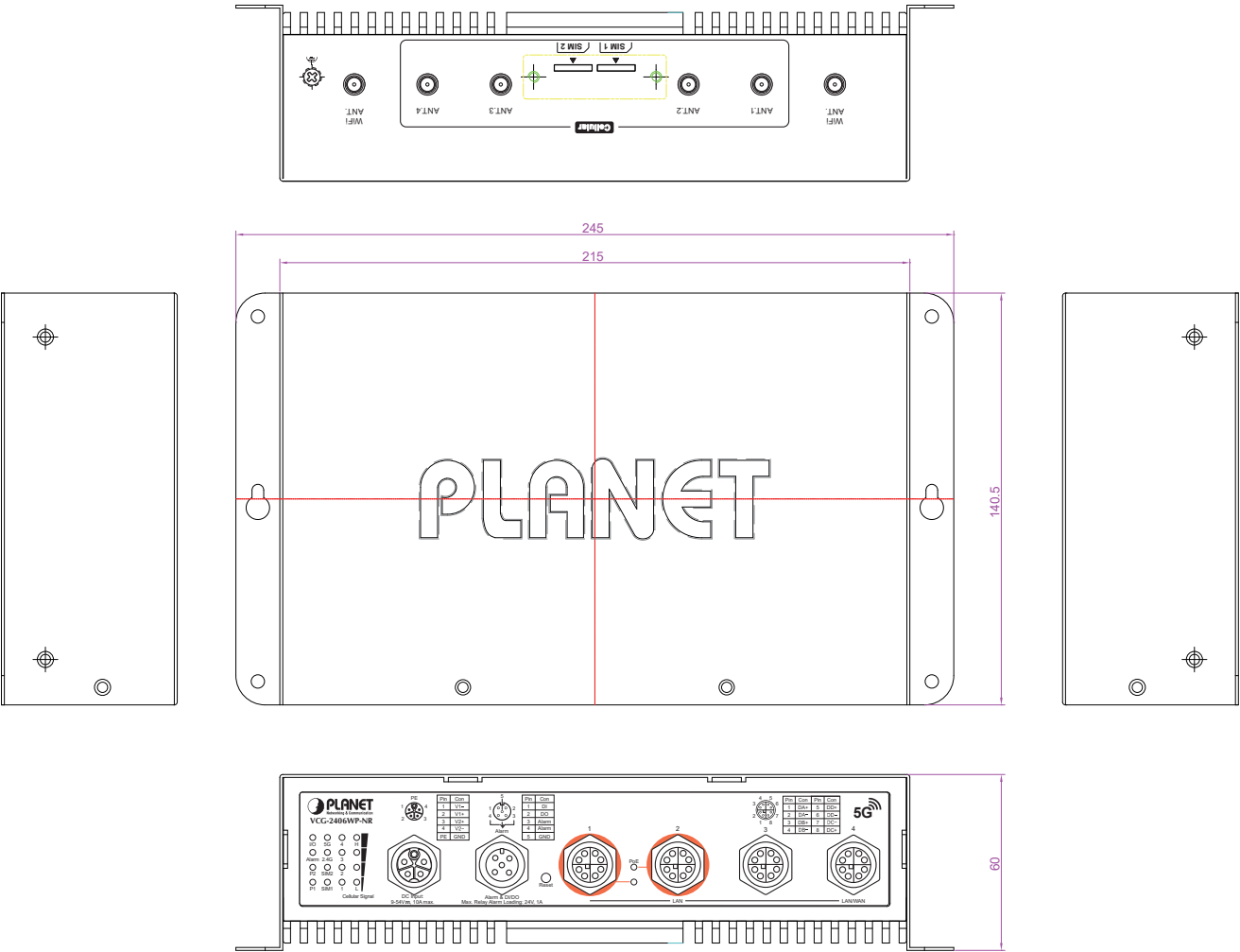


Note

The box does not contain the M12 5-pin K-coded female connector power cable.

2. Hardware Introduction

2.1 Physical Dimensions



Dimensions (W x D x H): 245 x 140.5 x 60 mm

2.2 Cellular Gateway Front Panel

Figure 2-1 shows the front panel of the Cellular Gateway.

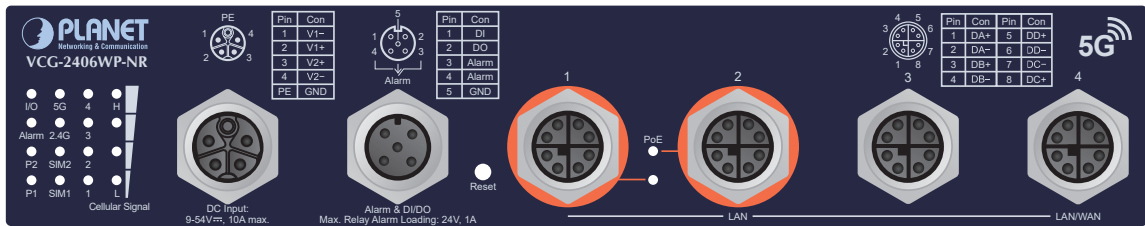


Figure 2-1: VCG-2406WP-NR Front Panel

2.3 LED Indicators

- System

LED	Color	Function
PWR 1	Green	Lights to indicate DC power input 1 has power.
PWR 2	Green	Lights to indicate DC power input 2 has power.
Alarm	Red	Lights to indicate that power or port has failed.
I/O	Red	Lights to indicate that power or port has failed or DI has event.

- Cellular

LED	Color	Function
SIM1	Green	Lights to indicate the SIM1 is connecting successfully.
SIM2	Green	Lights to indicate the SIM2 is connecting successfully.

- Cellular Signal

LED	Color	Function
High/100%	Green	Lights to indicate the cellular signal is strong.
75%	Green	Lights to indicate the cellular signal is good.
50%	Green	Lights to indicate the cellular signal is medium.
Low/25%	Green	Lights to indicate the cellular signal is weak.

- Wi-Fi

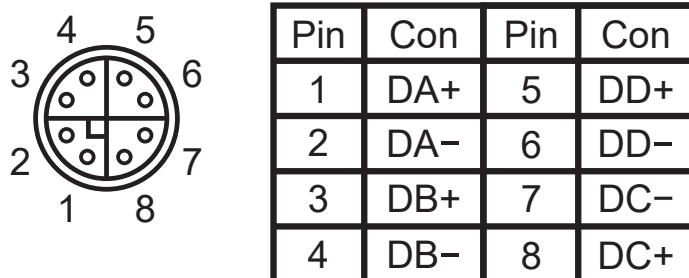
LED	Color	Function
2.4GHz	Green	Lights up when 2.4G Wi-Fi service is enabled.
5GHz	Green	Lights up when 5G Wi-Fi service is enabled.

- Per 10/100/1000BASE-T PoE+ Port (Port 1~4, PoE+ on Port 1~2 only)

LED	Color	Function	
LNK/ACT	Green	Lights	To indicate the port is running at 10/100/1000Mbps and successfully established.
		Blinks	To indicate the Cellular Gateway is actively sending or receiving data over that port.
PoE-in-Use	Orange	Lights	To indicate the port is providing DC in-line power.
		Off	To indicate the connected device is not a PoE powered device (PD).

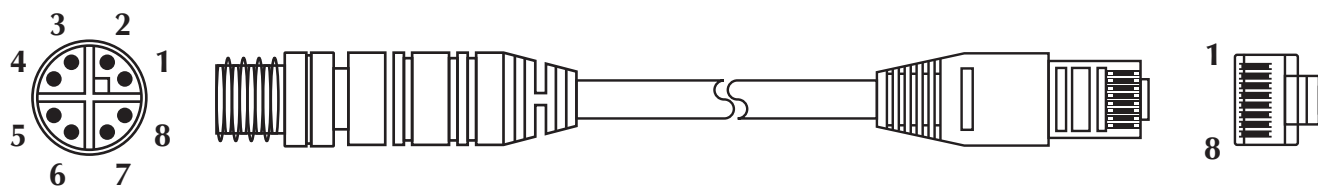
2.4 M12 X-coded Connector Pin Assignment

The Cellular Gateway front panel provides four Gigabit Ethernet ports (Port-1 to Port-4) in the form of M12 8-pin X-coded female connectors. Port-1 and Port-2 support PoE+ output, and Port-4 can be configured as LAN or WAN. These ports are designed for high-speed Ethernet connection through Cat5e/6 UTP cables. The M12 X-coded input interface pinout is shown below:



8-pin M12 X-coded Female 10/100/1000T Connector Pin Assignment

2.5 M12 (8-pin, Male) to RJ45 (8-pin) Straight-through UTP Cable Wiring



M12 X-coded Male Connector Pin No.	MDI 1000BASE-T Signal ID	T568B Color	RJ45 Connector Pin No.
1	BI_DA+	white/orange	1
2	BI_DA-	orange	2
3	BI_DB+	white/green	3
4	BI_DB-	green	6
5	BI_DD+	white/brown	7
6	BI_DD-	brown	8
7	BI_DC-	White/blue	5
8	BI_DC+	blue	4

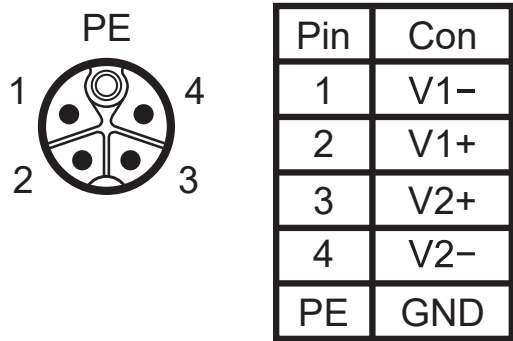


Note

As each Ethernet port of the Cellular Gateway is running in auto-negotiation mode, make sure the Ethernet ports of the corresponding Ethernet devices are also set to auto-negotiation mode; otherwise, the Ethernet performance will be poor.

2.6 M12 DC Power Connector Pin Assignment

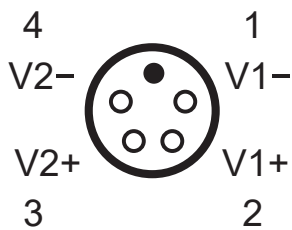
The front panel of the Cellular Gateway provides one M12 K-coded 5-pin male connector for DC power input.



2.7 M12 DC Power Cable Wiring

Please use the power cable with the M12 K-coded 5-pin female connector from the Cellular Gateway package for DC power input.

The M12 DC power cable pin assignment is shown below.



Note

1. Make sure you connect the correct power pin to your DC power source.
2. The DC power input range is 9 ~ 54V DC.

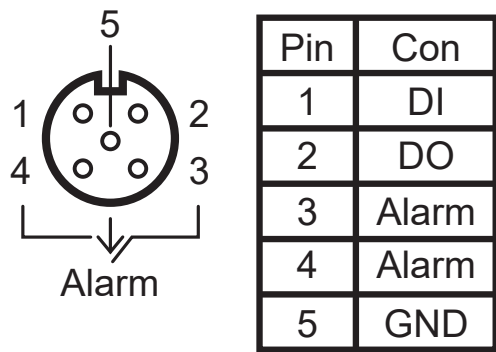


Note

The box does not contain the M12 5-pin K-coded female connector power cable.

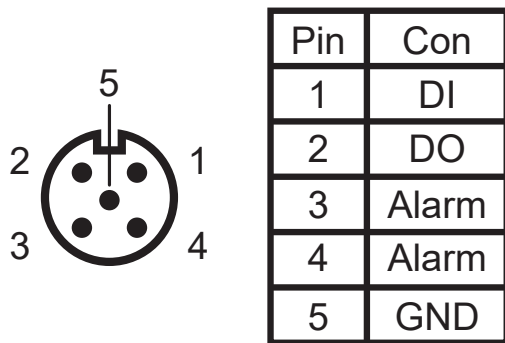
2.8 M12 A-coded Alarm & DI/DO Connector Pin Assignment

The front panel of the Cellular gateway includes alarm and digital input/output functions that utilize an **M12 5-pin A-coded female connector**. Users can connect to the workstation using either an adapter or the CB-M12A5MF-120 cables. The pinout for the M12 5-pin A-coded input interface is illustrated below:



5-pin M12 A-coded Male Connector Pin Assignment - Alarm & DI/DO

2.9 M12 A-coded Alarm & DI/DO Connector Cable Wiring



CB-M12A5MF-120 cables pin assignment and wiring code	
Function Description	Cable Color
Digital Input (DI)	White
Digital Output (DO)	Brown
Alarm	Black
Alarm	Blue
GND	Green



Note

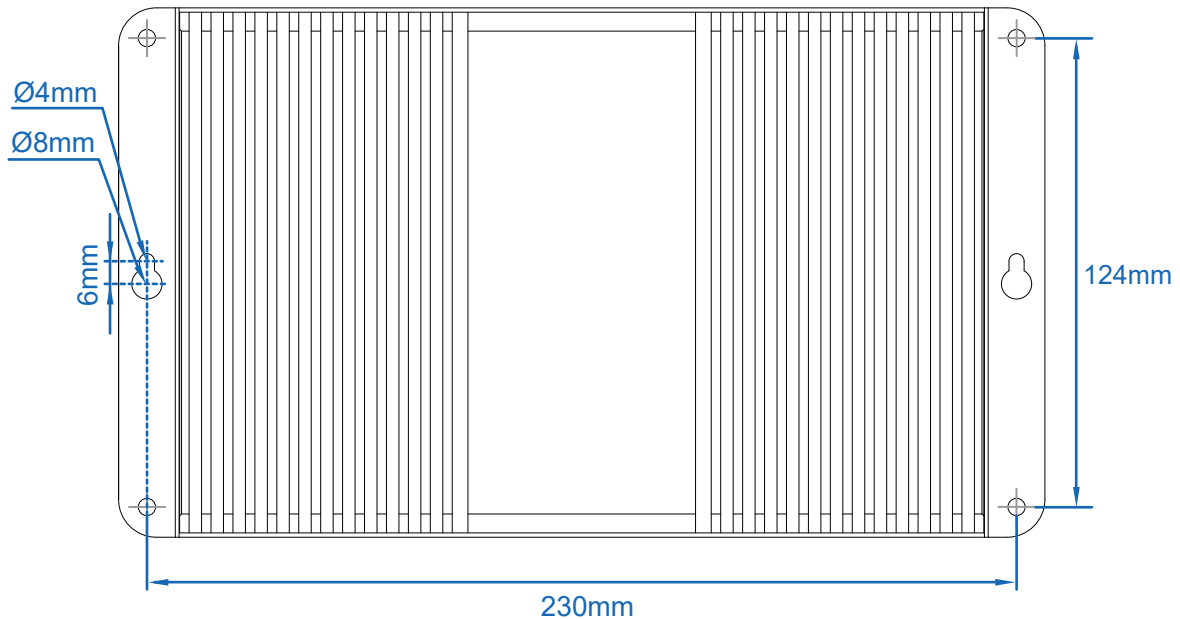
The **CB-M12A5MF-120** cable is not included in the package. If needed, please contact your local reseller to purchase the cable from PLANET.

3. Hardware Installation

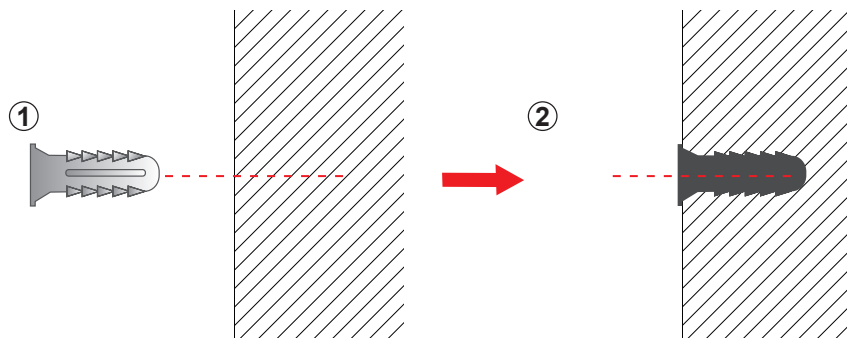
3.1 Wall Mount Installation

To install the Wall-mount Managed Switch on the wall, simply follow the following steps:

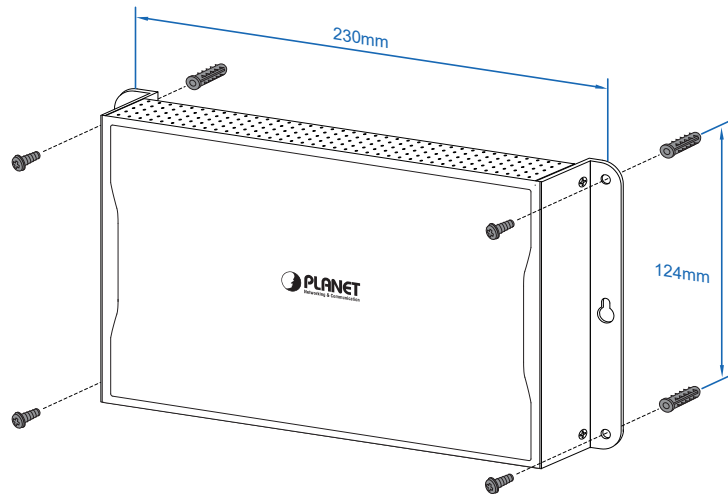
Step 1: Drill 4 holes with **8mm** diameter on the wall. The horizontal and vertical distances between the 2 holes are **230mm** and **124mm**, respectively.



Step 2: Hammer the four anchors into the four holes.



Step 3: Then the four given screws are screwed into the anchors to finish the wall-mount installation, as shown below.



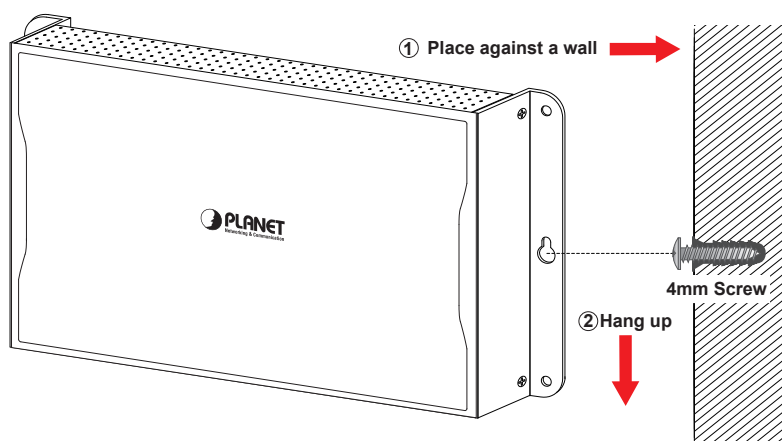
3.2 Wall Hanging Installation

To hang the Wall-mount Managed Switch on the wall, simply follow the following steps:

Step 1: Drill 2 holes (one hole on each side) with 8mm diameter on the wall; the distance between the 2 holes is 230 mm and the line through them must be horizontal.

Step 2: Place two anchors inside the hole by hammering them. Then screw the two screws leaving a space of 2mm apart as shown in the diagram.

Step 3: The switch, shown in the picture below, can now be hung on the wall.

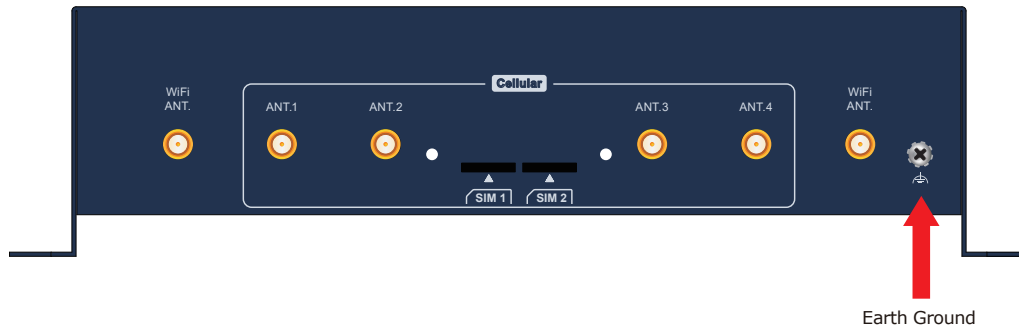


Caution

Make sure the equipment is securely wall-mounted as strong vibration could cause it to drop or break.

3.3 Grounding the Device

User **MUST** complete grounding wired with the device; otherwise, a sudden lightning could cause fatal damage to the device. EMD (Lightning) DAMAGE IS NOT COVERED UNDER WARRANTY.



3.4 SIM Card Installation

A. Locate the SIM card slot on the device.



B. Insert the SIM card directly into the slot with the gold-colored contacts facing downwards, and push it in completely.

C. Make sure the SIM card is securely in place before use.

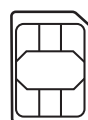
- A Nano SIM card with 5G NR and 4G LTE subscription



Mini SIM card



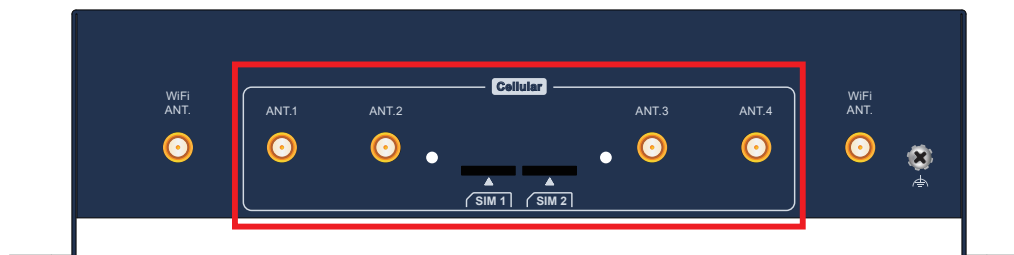
Micro SIM card



Nano SIM card

3.5 5G NR Antenna Installation

Step 1: Connect 5G NR antennas to the 5G NR antenna extender.



Four Female SMA Connectors

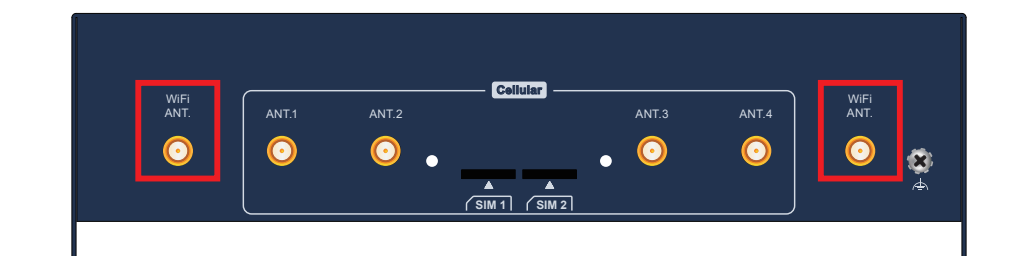
Step 2: Fasten the 5G NR antenna extenders to the connectors.



3.6 Wi-Fi Antenna Installation

Step 1: Fasten the two dual-band antennas to the antenna connectors on the front panel of the Cellular Gateway.

Step 2: You can bend the antennas to fit your actual needs.



Two Wi-Fi RP-SMA connectors

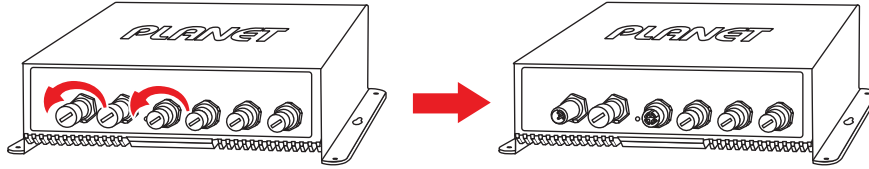


Note

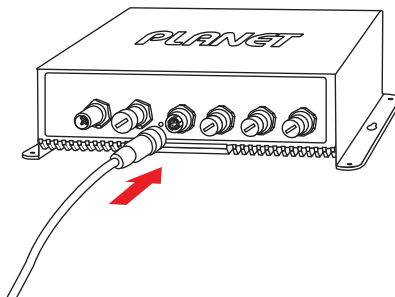
Please use PLANET dual-band Wi-Fi antenna for high efficiency to avoid low efficacy.

3.7 Connecting M12 Cable to the VCG-2406WP-NR

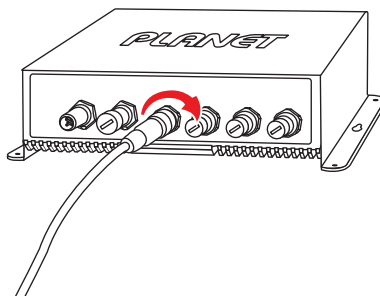
Step 1: Turn counterclockwise to remove the screw nuts of an M12 connector and power input.



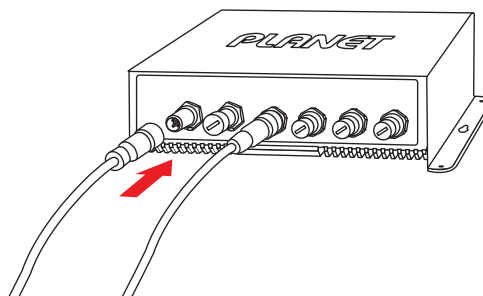
Step 2: Insert the M12 UTP male connector into the M12 female Gigabit Ethernet port of the Cellular Gateway.



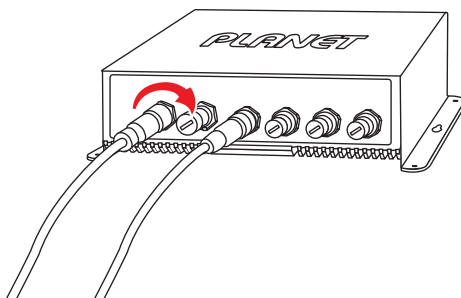
Step 3: Turn clockwise to tighten the screw nut of the M12 connector and make sure the connection is tight.



Step 4: Insert the M12 power female connector into the M12 male port of the power input.



Step 5: Turn clockwise to tighten the screw nut of the M12 power connector.



Note

Before connecting the DC power cord, please check whether your local DC power source is stable.

4. Starting Web Management

The following shows how to start up the **Web Management** of the Cellular Gateway. Note the Cellular Gateway is configured through an Ethernet connection. Please make sure the manager PC must be set to the same **IP subnet address**.

For example, the default IP address of the Cellular Gateway is **192.168.1.1**, then the manager PC should be set to **192.168.1.x** (where x is a number between 2 and 254), and the default subnet mask is 255.255.255.0.

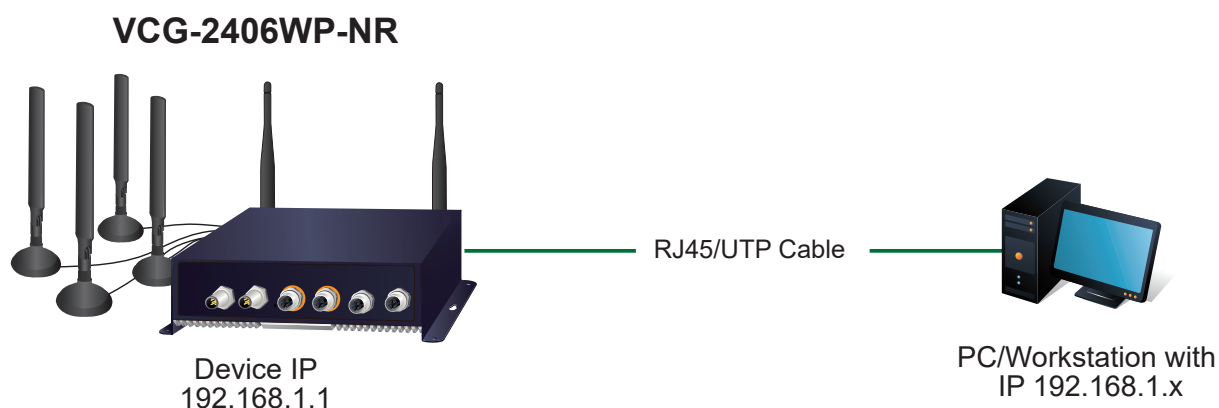


Figure 4-1: IP Management Diagram



Note

The DHCP server of the Cellular Gateway is enabled. Therefore, the LAN PC will get IP from the Cellular Gateway.

4.1 Logging in to the Cellular Gateway

1. Use Web browser to enter IP address **<https://192.168.1.1>** (the factory default IP address or the one that you have just changed in console) to access the Web interface.
2. When the following web page appears, please enter the default user name and password. Refer to **Figure 4-2** to determine your initial login password.

Default IP Address: **192.168.1.1**

Default Username: **admin**

Default Password: **cg + the last 6 characters of the MAC ID in lowercase**

Default SSID (2.4G): **PLANET_2.4G**

Default SSID (5G): **PLANET_5G**

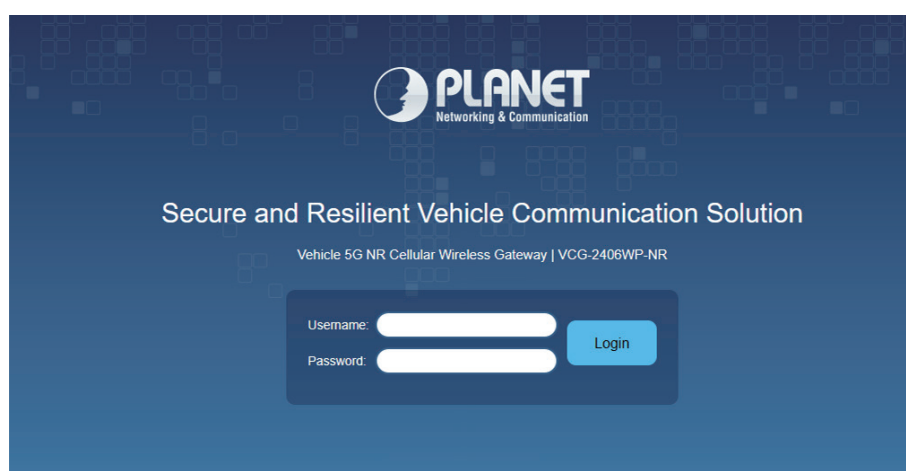
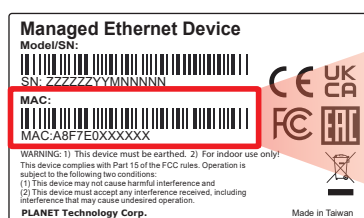


Figure 4-2: Login Screen

3. Find the MAC ID on your device label. The default password is **"cg"** followed by the last six lowercase characters of the MAC ID.



MAC ID: A8F7E0XXXXXX

Default Password: cgxxxxxx

("x" means the last 6 digits of the MAC address.
All characters should be in lowercase.)

Figure 4-3: MAC ID Label



Note

If you have already changed the password via web login, please use this new password to log in.

4. After entering the password, the main screen appears as shown in Figure 4-4.

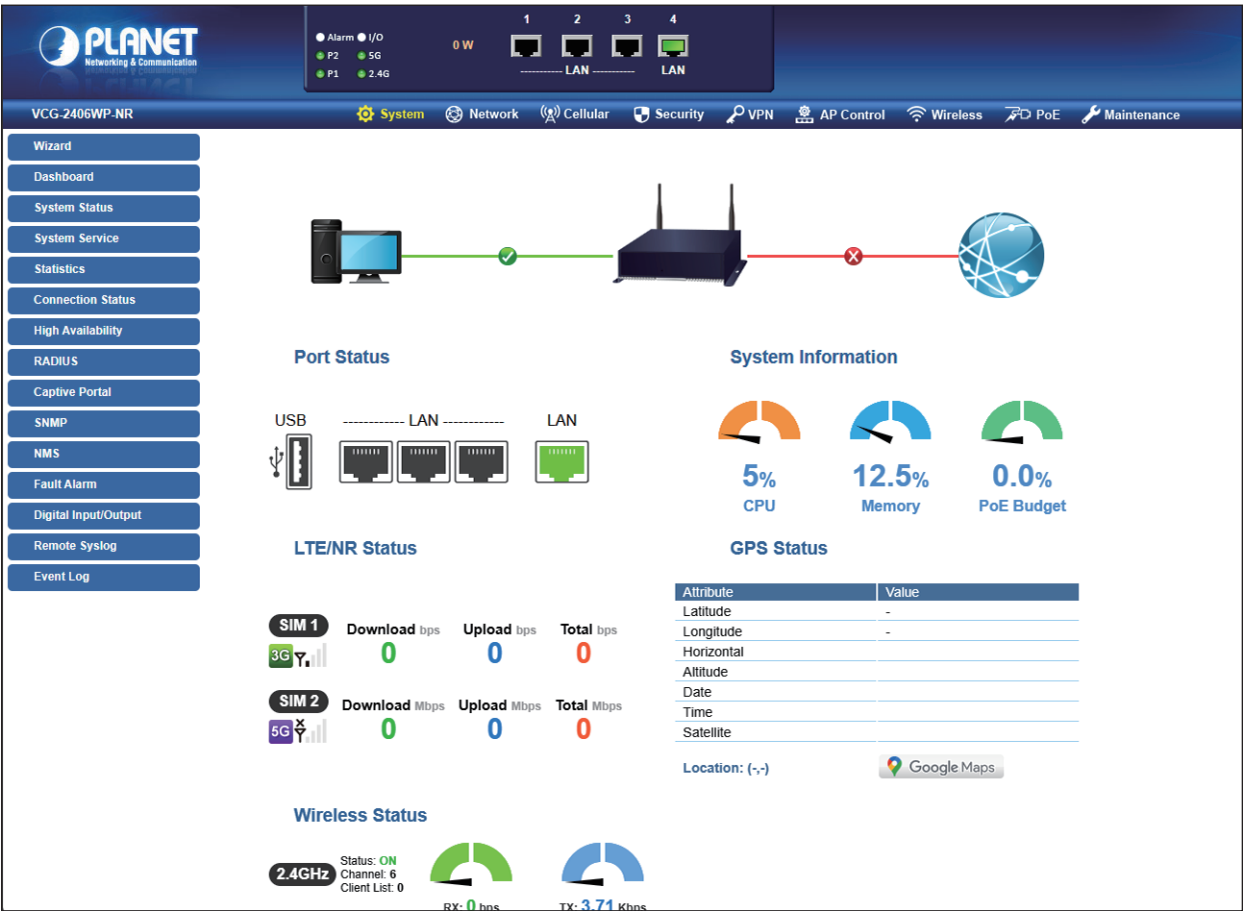


Figure 4-4: Web-based Main Screen of Cellular Gateway

Now, you can use the Web management interface to continue the Cellular Gateway management or manage the Cellular Gateway by console interface. Please refer to the user’s manual for more.

Administrators are strongly suggested to change the default password and Wi-Fi SSID on the first login to safeguard system security.

5. Recovering Back to Default Configuration

■ IP address has been changed or admin password has been forgotten –

To reset the IP address to the default IP address “**192.168.1.1**” or reset the login password to default value, press the hardware **reset button** on the front panel for about **10 seconds**. After the device is rebooted, you can log in the management Web interface within the same subnet of 192.168.1.xx.

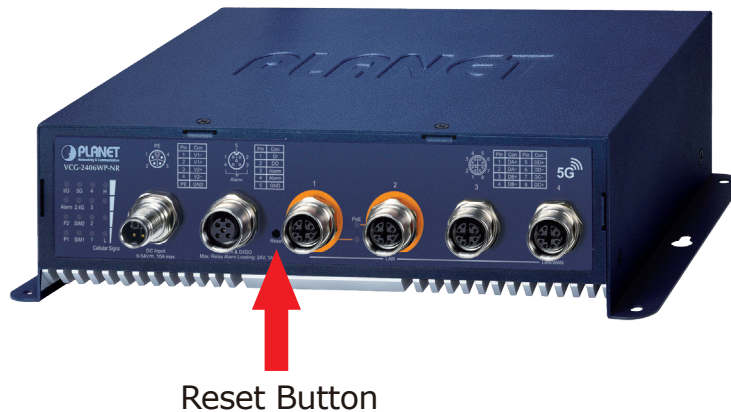


Figure 5-1: VCG-2406WP-NR Reset Button

6. Customer Support

Thank you for purchasing PLANET products. You can browse our online FAQ resource and User's Manual on PLANET Web site first to check if it could solve your issue. If you need more support information, please contact PLANET support team.

PLANET online FAQs:

<https://www.planet.com.tw/en/support/faq>

Support team mail address:

support@planet.com.tw

VCG-2406WP-NR User's Manual:

<https://www.planet.com.tw/en/support/downloads?method=keyword&keyword=VCG-2406WP-NR#list>



(Please select your model name from the drop-down menu of Product Models.)

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