

CCG-1500 Series Quick Installation Guide

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Technical Support Contact Information
www.moxa.com/support



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P/N: 1802015102014



Overview

The CCG-1500 Series is a private 5G gateway that acts as a media and protocol converter. These gateways support 5G-to-Ethernet and 5G-to-Serial connections, suitable for private networks. The CCG-1500 Series can also be used as a protocol converter for Modbus TCP/RTU communications, as well as a wireless platform for 5G communications.

Equipped with a Cortex-A7 processor optimized for media conversion, the CCG-1500 Series can be deployed in a wide variety of industrial applications. The robust wide-temperature design further makes the CCG-1500 Series suitable for use in harsh operating environments.

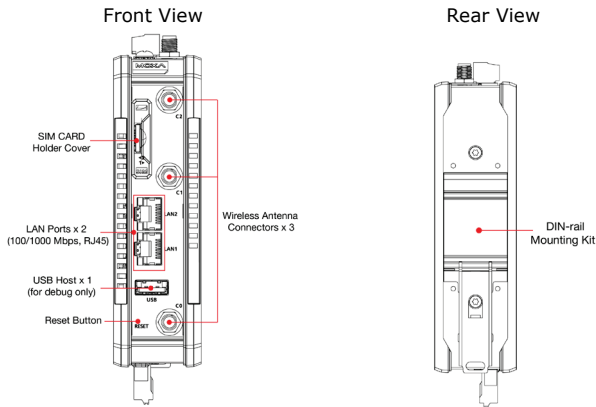
Package Checklist

Your CCG-1500 Series device is shipped with the following items. If any of these items are missing or damaged, please contact your customer service representative for assistance.

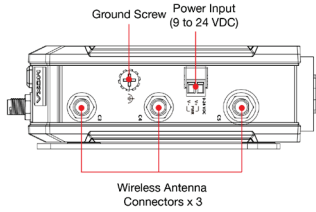
- 1 CCG-1500 Series gateway
- DIN-rail mounting kit (pre-installed)
- Power jack for power adapter
- 2-pin terminal block for power input
- 6 antennas (CCG-1510-TW-T, CCG-1510-US-T, CCG-1510-T models)
- 4 antennas (CCG-1520-T models)
- Quick installation guide (printed)
- Warranty card

Panel Layouts

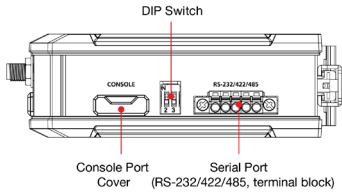
CCG-1510 Models



Top View

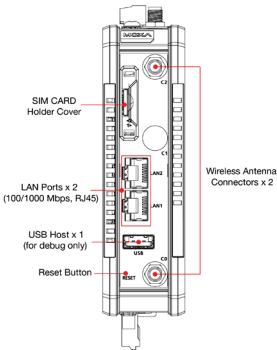


Bottom View

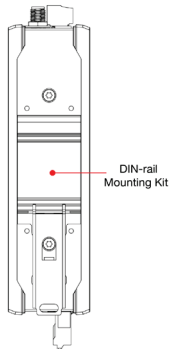


CCG-1520 Models

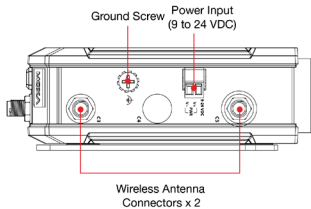
Front View



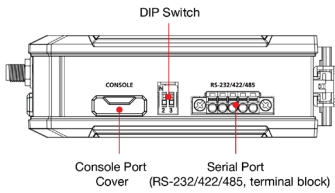
Rear View



Top View

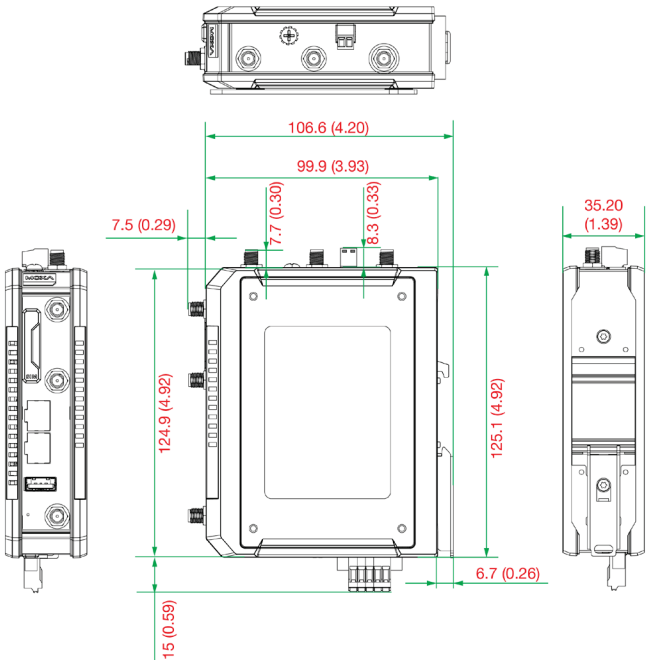


Bottom View



Device Dimensions

Unit: mm (inch)



Mounting the CCG-1500 Series

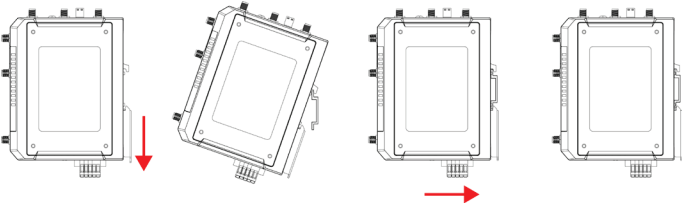
The CCG-1500 Series can be mounted onto a DIN rail or a wall. The DIN-rail mounting kit is attached to the device by default. The wall-mounting kit can be purchased separately.

NOTE The rubber SIM cover and console port cover should be attached to ensure IP30 protection when mounting the device. For CCG-1520-T models, the SMA protection cover should also be attached.

DIN-rail Mounting

Installation

- STEP 1:** Using a screwdriver, pull down the slider of the DIN-rail bracket on the back of the unit.
- STEP 2:** Insert the top of the DIN rail into the slot just below the upper hook of the DIN-rail bracket.
- STEP 3:** Press the device towards the DIN rail until it snaps into place.



Removal

- STEP 1:** Pull down the latch on the mounting kit with a screwdriver.
- STEP 2:** Slightly pull the device forward.
- STEP 3:** Lift the device up to remove it from the DIN rail.

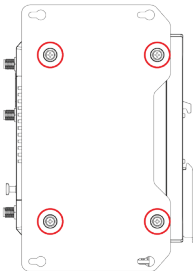
Wall Mounting (Optional)

NOTE Mounting the CCG-1500 Series onto a wall requires an optional wall-mounting kit, which is sold separately.

For some applications, it may be more convenient to mount the CCG-1500 gateway to a wall.

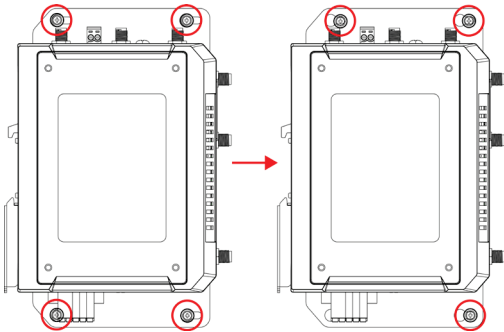
Installation

- STEP 1:** Attach the wall mounting kit plates to the side panel of the CCG-1500 Series device using four M3 x 6 mm screws.



STEP 2: Use the CCG-1500 Series device with the wall mount plates attached as a guide to mark the correct location of the four screws. The heads of the screws should be less than 6.0 mm in diameter, the shafts should be less than 3.5 mm in diameter, and the length should be at least 10 mm in diameter.

STEP 3: Once the screws are fixed into the wall, insert the four screw heads through the large opening of the keyhole-shaped apertures of the mounting kit. Tighten the four screws for added stability.

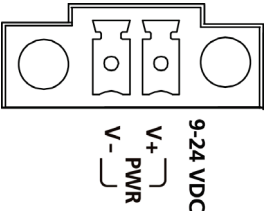


Connecting the Power Input

Power Terminal Block

A skilled person for the job should install the wiring for the input terminal block. The wiring type should be copper (Cu) and only 14-22 AWG wire size and torque value 0.2 N-m should be used.

NOTE The V- and ground connections must be connected with separate wires. Using the same wire may damage the device.



Power Jack

Connect the power jack (included in the package) to the CCG-1500 Series' terminal block located on the top panel, then connect the power adapter. It takes several seconds for the system to boot up. Once the system is ready, the P/S LED will light up.

NOTE The product is intended to be supplied by a UL Listed Power Unit marked "L.P.S." (or "Limited Power Source") and is rated 9-24 VDC @ 1.33-0.5 A min., Tma = 70°C (min). If you need assistance purchasing a power source, please contact Moxa for more information.

Grounding the CCG-1500 Series

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI) by routing the noise from the metal chassis to the connected ground.

Connect the grounding wire to the grounding screw located on the top panel of the device. When connected to ground, the noise is routed directly through the metal chassis.



NOTE The V- and ground connections must be connected with separate wires. Using the same wire may damage the device.

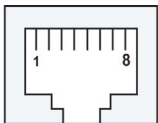
NOTE The grounding wire should have a minimum diameter of 3.31 mm².

NOTE If using a Class I adapter, the power cord must be connected to an outlet with an earthing connection.

Interface Description

10/100/1000BaseT(X) Ethernet Port

The 10/100/1000BaseT(X) ports located on the front panel of the CCG-1500 Series device are used to connect to Ethernet-enabled devices. The pin assignment of the port is as below:

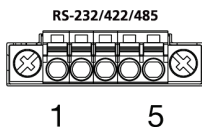


10/100 Mbps	
Pin	Signal
1	Tx+
2	Tx-
3	Rx+
4	-
5	-
6	Rx-
7	-
8	-

1000 Mbps	
Pin	Definition
1	DA+
2	DA-
3	DB+
4	DB-
5	DD+
6	DD-
7	DC-
8	DC+

Serial Port

The serial port uses terminal block connectors. The serial mode (RS-232, RS-422, or RS-485) can be configured through software. The pin assignment of the port is as below:



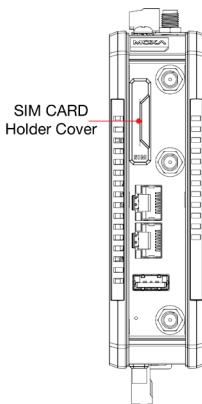
Pin	Definition
1	RS-232TXD/RS-422T+/RS-485T+
2	RS-232RXD/RS-422T-/RS-485T-
3	RS-232RTS/RS-422R+/RS-485R+
4	RS-232CTS/RS-422R-/RS-485R-
5	GND

SIM Card Sockets

The CCG-1500 Series comes with two nano-SIM card sockets for cellular communication. The nano-SIM card sockets are located on the front panel and are protected by a cover. The left socket is for SIM 1 and the right socket is for SIM 2.

Remove the protective cover to access the sockets, then insert the nano-SIM cards into the sockets directly. You will hear a click when the cards are in place.

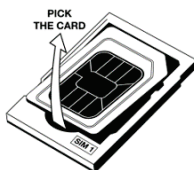
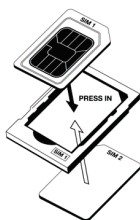
To remove the cards, push the cards in then release to unseat the cards.



When installing or removing the SIM, mind the following:

Installing: Correctly align and place the SIM card in the tray.

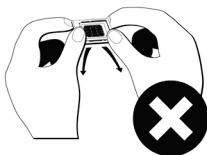
Removing: Use the groove to carefully lift up and remove the SIM card from the tray.





ATTENTION

Do not bend the SIM tray to remove the SIM card. Improper use may cause the sim tray to break.



Wireless Connectors

Cellular Interface

The CCG-1510 Series is equipped with a built-in cellular module. To use the cellular function, the antennas must be connected to the SMA connectors. The CCG-1510 models have six antenna connectors while CCG-1520 models have four antenna connectors.

GPS

The built-in GPS module of the CCG-1500 Series allows the device to use GPS satellite geolocation. To use the GPS function, the antennas must be connected to the SMA connectors.

LED Indicators

The LED indicators are located on the front panel of the CCG-1500. The function of each LED is described in the table below:

LED	Color	Behavior	Status
Signal Strength (Strong)	Green	On	Indicates a strong 4G/5G signal.
Signal Strength (Medium)	Green	On	Indicates a medium 4G/5G signal.
Signal Strength (Weak)	Green	On	Indicates a weak 4G/5G signal.
P/S (Power/System Status)	Red	On	The system is booting up or is not ready yet.
	Green	On	The system is powered on and ready.
	Off	Off	The system is powered off.
SIM1/2	Amber	On	A SIM card is enabled in slot 1.

	Green	On	A SIM card is enabled in slot 2.
	Off	Off	No SIM card is inserted.
4G/5G	Amber	On	A cellular connection is established to a 4G network.
	Green	On	A cellular connection is established to a 5G network.
	Off	Off	No cellular network signal.
LAN1, LAN2	Green	On	The port is active, and a link is established at 1000 Mbps.
	Green	Blinking	Data is being transmitted at 1000 Mbps.
	Amber	On	The port is active, and a link is established at 10/100 Mbps.
	Amber	Blinking	Data is being transmitted at 10/100 Mbps.
	Off	Off	The port is inactive, or the link is down.

Accessing the Web Console

You can log into the web console of the CCG-1500 Series gateway by connecting a host computer to LAN1 or LAN2 on the device and navigating to the device's default IP address in a web browser. Please ensure the host computer and CCG-1500 gateway are in the same subnet.

The default web interface address is <https://192.168.225.1:443>

When prompted, log in using the default credentials:

- Username: **admin**
- Password: **moxa**

Certifications



WARNING

1. 為避免電磁干擾，本產品不應安裝或使用於住宅環境。
2. 減少電磁波影響，請妥適使用。
3. 電波功率密度 MPE 標準值: 1 mW/cm² 送測產品實測值：
CCG-1510 Models: 0.11422 mW/cm²
CCG-1520 Models: 0.07 mW/cm²
建議使用時設備天線至少距離人體 20 公分。
4. 此電信終端設備支援行動寬頻頻段資訊：
CCG-1510 Models:
LTE 介面支援頻段: LTE FDD 700/900/1800/2100/2500MHz;
TDD 2600 MHz
5GNR 介面支援頻段: 5GNR FDD 700/1800/2100 MHz; TDD
2500/3500 MHz
CCG-1520 Models:
此電信終端設備支援行動寬頻頻段資訊： 5GNR 介面支援頻段:
5GNR TDD 4900 MHz



ATTENTION

1. **Exposure Warning**

This device meets the EU requirements (2014/53/EU) on the limitation of exposure of the general public to electromagnetic fields by way of health protection.

The device complies with RF specifications when the device is used at 20 cm from your body.

2. **Supported Band List and Power (dBm)**

5G NR band 77: 3300- 4200 MHz, max.

conducted power = 25 dBm (based on Module test report)

5G NR band 78: 3300- 3800 MHz, max.

conducted power = 25 dBm (based on Module test report)