X2000 Gateway – On-Premise

Instruction Manual

These instructions must be read thoroughly before installation or operation.
This instruction manual was accurate at the time of printing.

TABLE OF CONTENTS

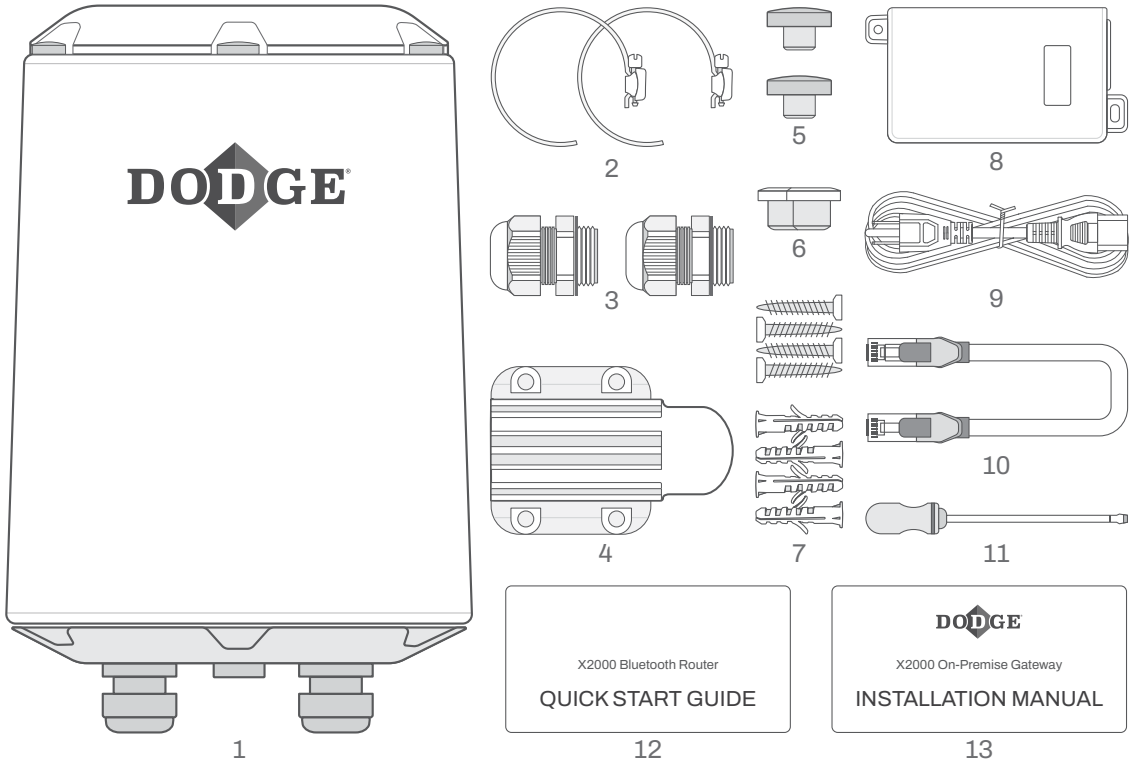
1 GENERAL

The X2000 Gateway – On-Premise is used to send data from Dodge® sensors to industrial control systems that support EtherNet/IP or Open Platform Communications Unified Architecture (OPC-UA) such as Programmable Logic Controller (PLCs), Human-Machine Interface (HMIs), and various historians.

The gateway must be connected to a Local Area Network (LAN) via wired or Wi-Fi configuration in order to connect to the industrial control system devices and sensors need to be assigned to the gateway before it can start reading them.

NOTE: The gateway does not need to be connected to the internet via LAN.

The package includes:



1. X2000 Router (1)
2. Pole Mounting Straps (2)
3. Cable Glands (2)
4. Mounting Bracket (1)
5. Extra Top Screw Covers (2)
6. USB Hole Silicone Plug (1)
7. Anchors with Screws (2*4)
8. PoE Injector (1)
9. Power Cord (1)
10. Cat6 Ethernet Cable -10ft (1)
11. Slotted Screwdriver (1)
12. Quick Start Guide (1)
13. Installation Manual (1)

Figure 1 - Package contents

For general hardware information about the gateway, please refer to the user manual at https://www.cassianetworks.com/download/docs/Cassia_User_Manual.pdf

2 INSTALLATION

2.1 Prerequisites for installation

Sensor commissioning

- You must use the OPTIFY™ mobile app to commission sensors before connecting them to the gateway. This will require:
  - An OPTIFY account
  - A plant within OPTIFY

  Refer to the OPTIFY user guide for assistance with these steps at iiot-dodgeindustrial.swipeguide.com/guide/optify-user-guide or at the QR code below.

Sensor monitoring, OPC-UA server, and EtherNet/IP configurations

- Use the X2000 Gateway – On-Premise user guide to learn how to add and monitor sensors in the gateway, as well as how to configure the OPC-UA and EtherNet/IP communications

  To access the user guide and additional product information, visit dodge.ptplace.com/productDetail/_pn=749923

Local network configuration

- Connect gateway to a LAN via wired or Wi-Fi configuration
- OPC-UA clients or EtherNet/IP devices need to be allowed on the same subnet as the gateway

Power supply

- In case PoE network is not available, a PoE injector (provided in box) is needed for the power supply
- PoE is 802.3af/at compliant

Ethernet cable

- When Wi-Fi configuration to a LAN is used, one Ethernet cable is needed
- When wired configuration to LAN is used, two Ethernet cables are needed

Computer

- A computer with Wi-Fi adapter, tablet, or mobile phone is needed to configure the gateway
- Google Chrome is the recommended web browser

Mounting

- Mounting the gateway is not mandatory but is recommended to secure the unit in its intended location

2.2 Recommended location

Height

- The recommended height for the gateway is 10 ft (3 m)—100 ft (30 m) from ground level. A lower level is acceptable, but the gateway's Bluetooth® range may be shorter due to obstacles.

Orientation

- The gateway has the best reception in the direction where the Dodge logo is located on the side of its case. If the gateway has trouble connecting to a specific sensor, it is recommended to rotate the gateway to point in that direction.

Grounding

- If installing the gateway outdoors, be sure to install a grounding cable to the bottom of the gateway as shown on the following page

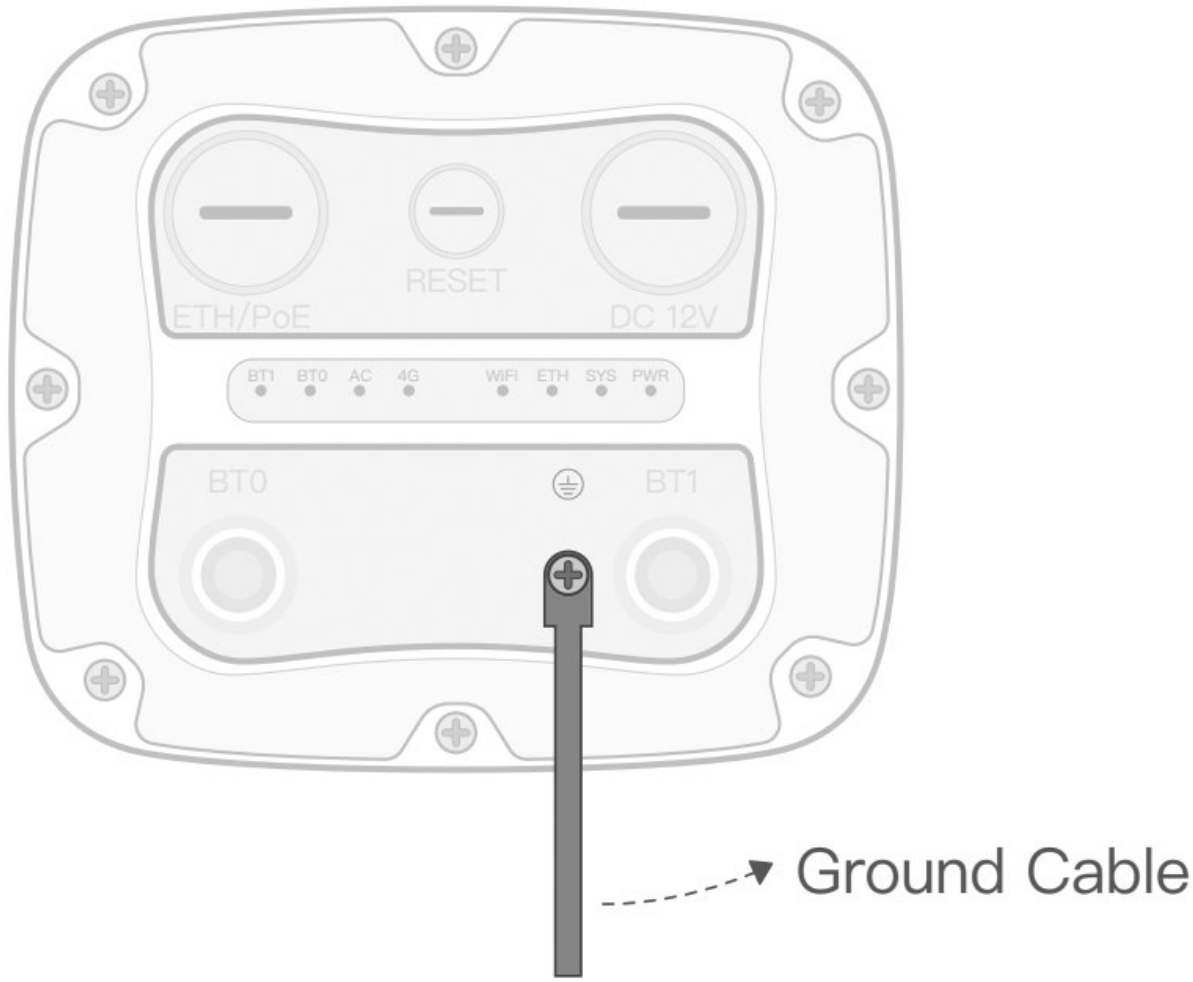


Figure 2 - Grounding cable location

2.3 Gateway configuration

When the gateway is powered on, the power LED at the bottom of the gateway will turn green. The bootup takes about 30-60 seconds.

After bootup, the gateway will turn on its Wi-Fi hotspot. Connect to the Wi-Fi hotspot with the device used for configuration (e.g. computer, mobile phone, or tablet).

The Wi-Fi connection's SSID, or name, will be "cassia-XXXXXX" where the last 6 digits will match the last 6 digits of the gateway's MAC address. The MAC address can be found on the bottom of the gateway. The password for the Wi-Fi connection will be the same as the SSID.

Once your device is connected to the gateway's Wi-Fi hotspot, open an internet browser. Type 192.168.40.1 in the address field and press enter. The Cassia configuration page will open. The default password will need to be changed after the first login. When prompted, create a new password. The default credentials are:

- Username: admin
- Password: admin

NOTE: The new password should include a combination of numbers, letters, and special characters and must be between 8-20 characters. Take note of password for future use.

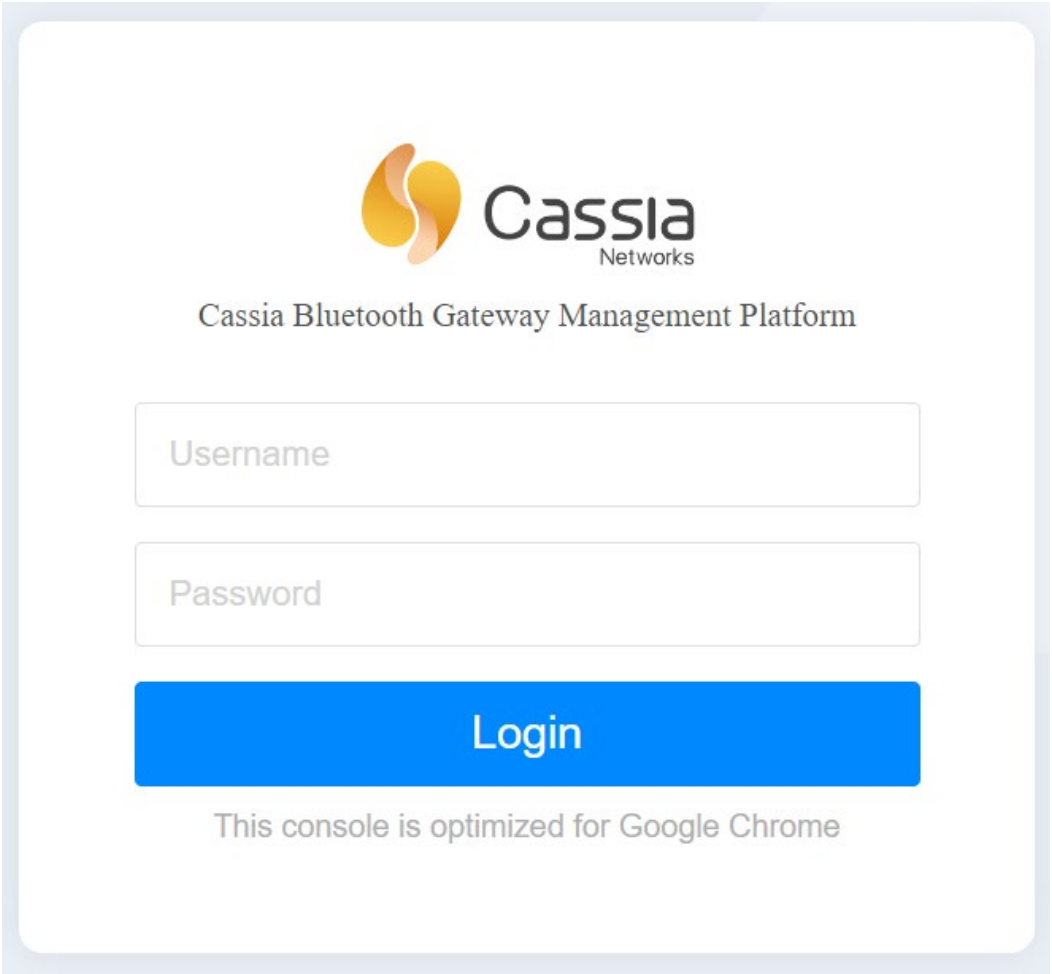


Figure 3 - Login page

Once logged in, the status page is shown to display the current operating mode and connection status of the gateway.

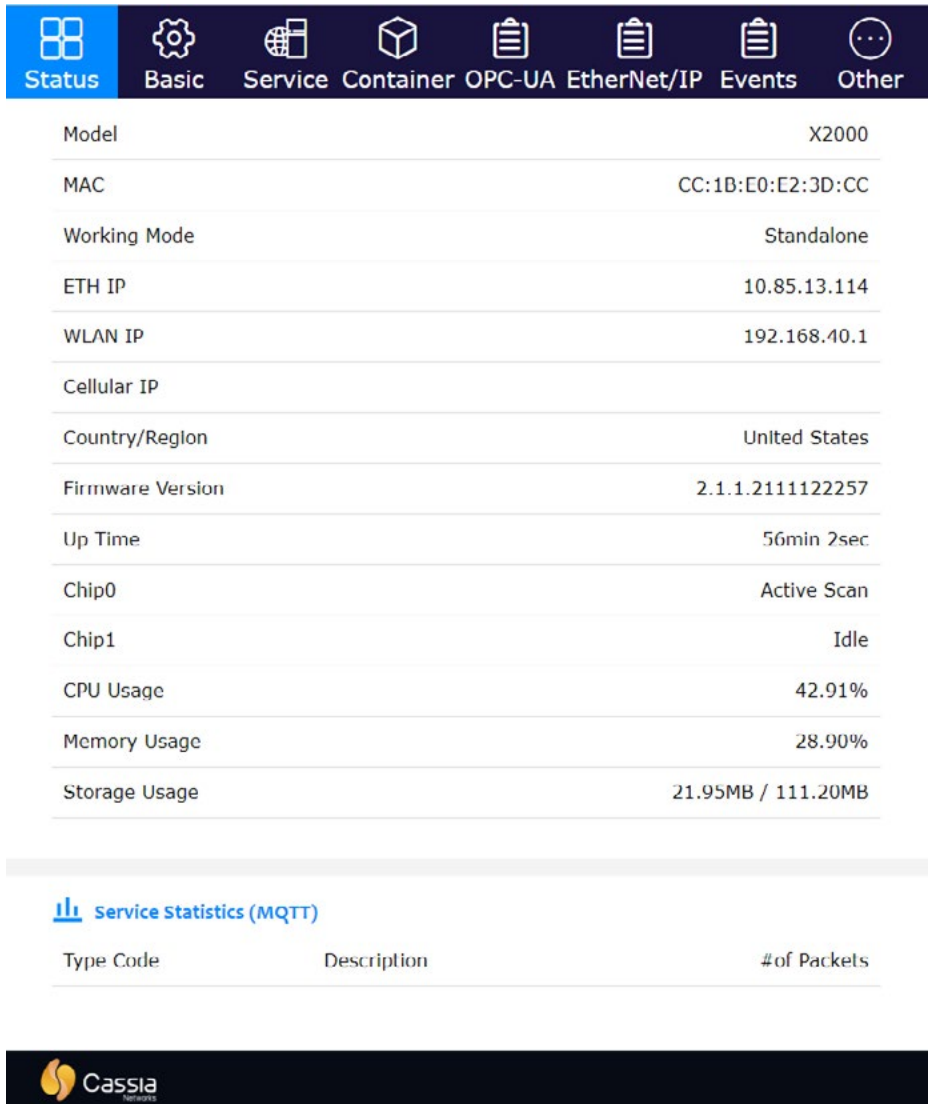


Figure 4 - Status page

The following pages are used for gateway configuration:

- The Basic page to connect the gateway to the LAN via wired or Wi-Fi configuration
- The OPC-UA page for sensor management if an OPC-UA server setup is used
- The EtherNet/IP page for sensor management if an EtherNet/IP interface setup is used

2.4 LAN/Ethernet cable connection

Use the available LAN/ethernet network to connect the gateway and use the PoE injector included in the package for the power supply.

If a PoE network is available, the gateway can be configured without additional power supply.

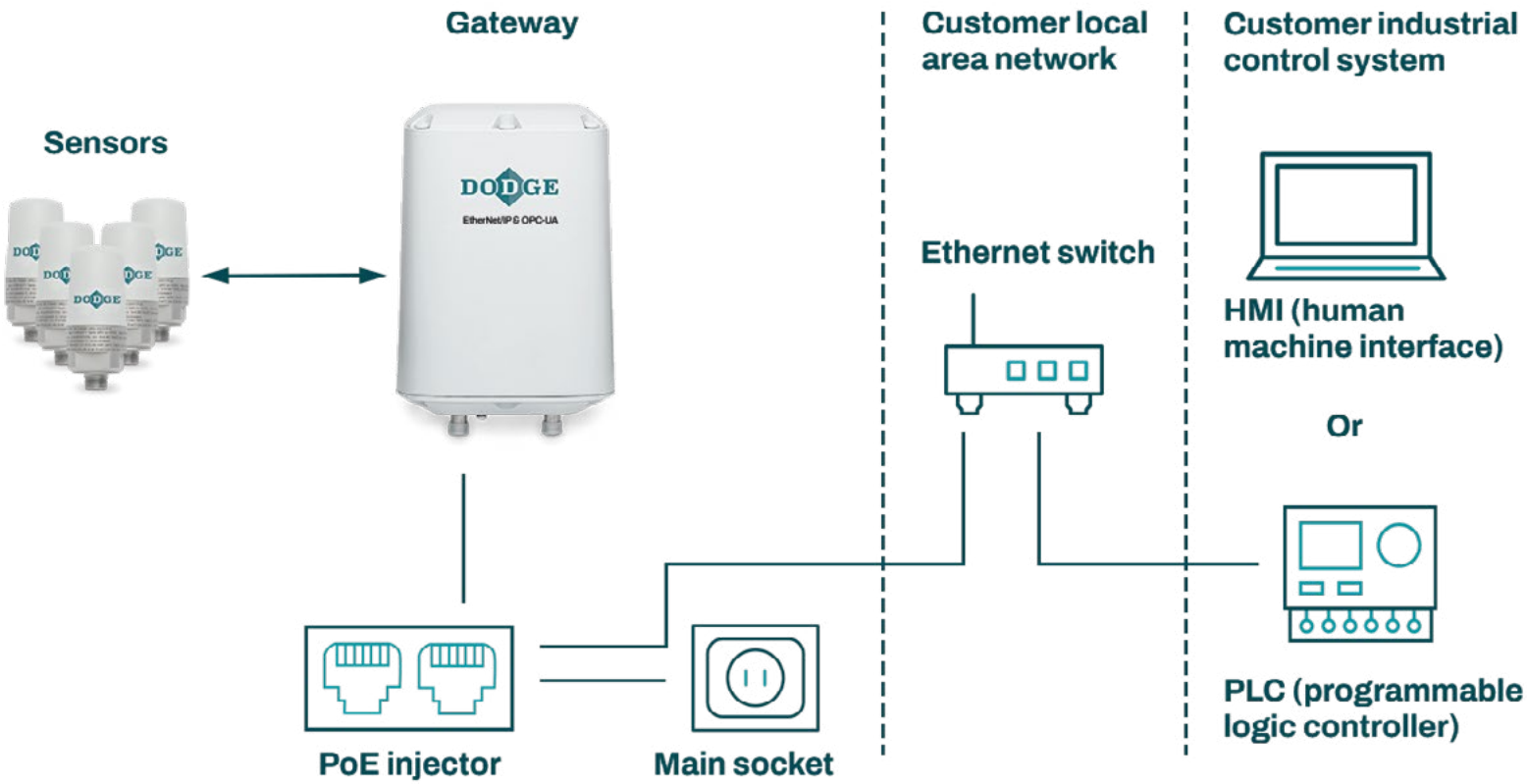


Figure 5 - LAN network configuration

From the Basic page, select:

- Connection Priority: Wired (default)
- IP Allocation: DHCP or Static (in case the IP address is given)

Press apply at the bottom of the screen.

NOTE: Only the above options can be changed on this page. Other options must remain as default. In case any options are altered, please refer to the Basic page figure below.

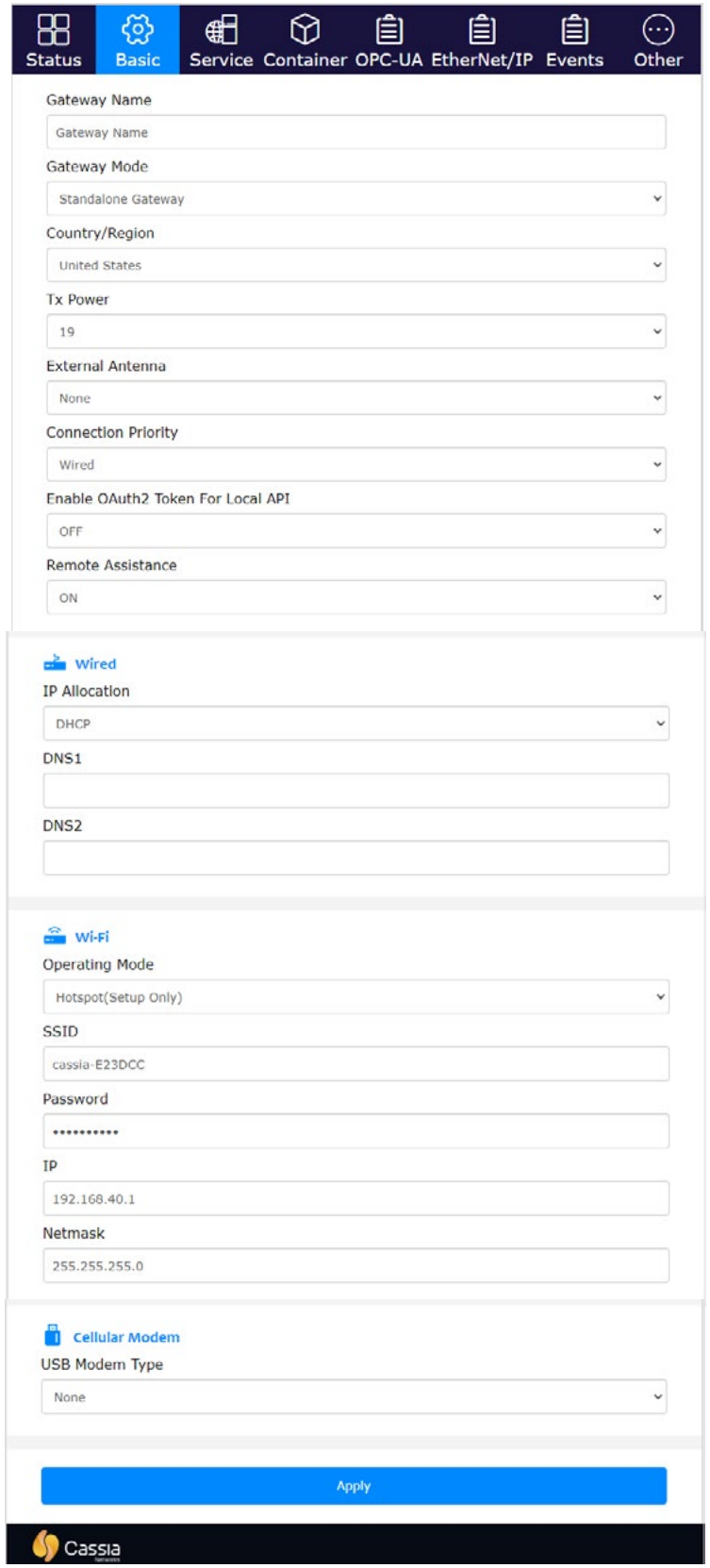


Figure 6 - Basic page

2.5 Wi-Fi Connection

The gateway can be configured to use an existing Wi-Fi network using the included PoE injector for the power supply.

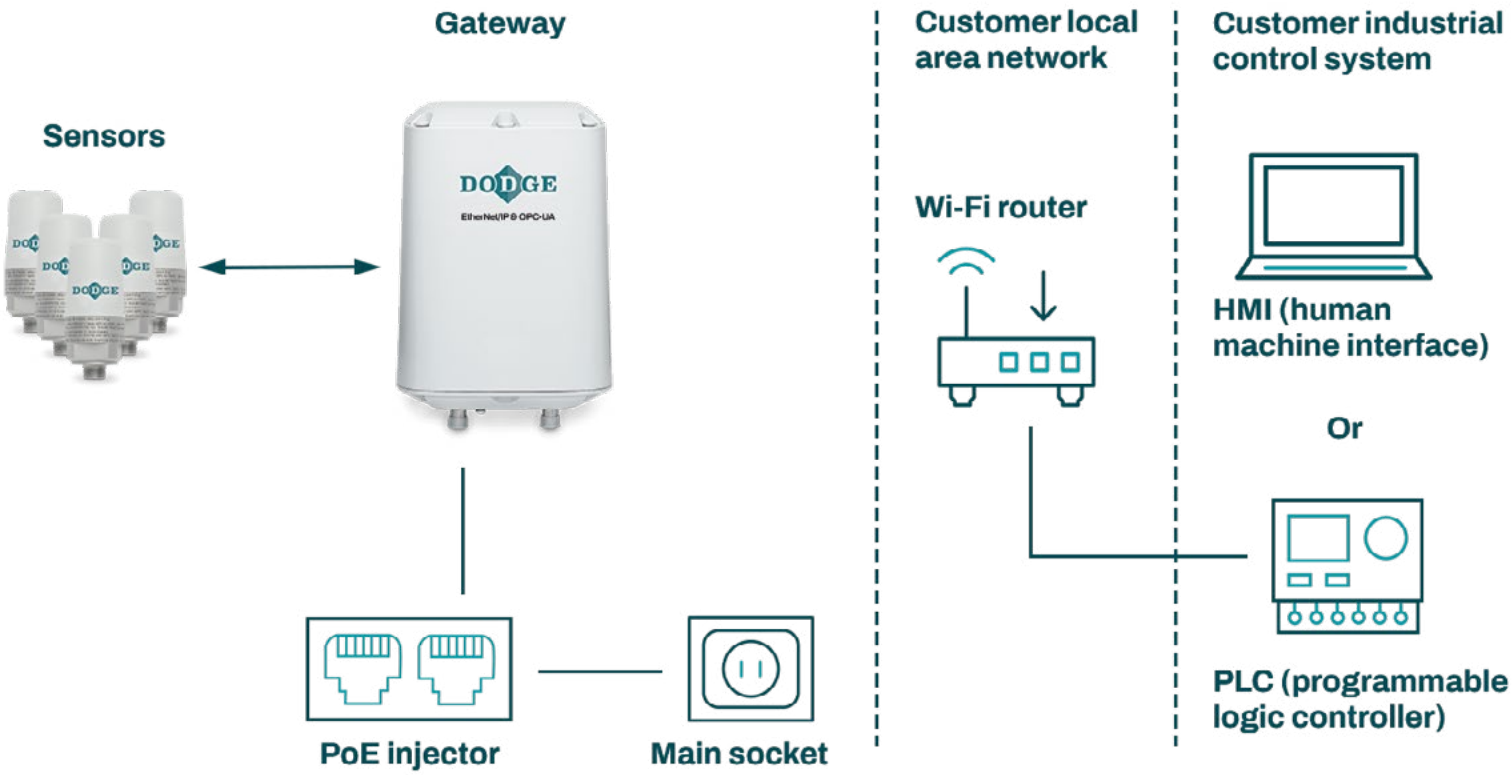


Figure 7 - Wi-Fi network configuration

From the Basic page, select:

- Connection Priority: Wi-Fi
- Under Wi-Fi, enter the Wi-Fi network SSID (name)
- Enter the Wi-Fi network password
- Change Operating Mode from “Hotspot” to “Client”
- IP Allocation: DHCP or Static (in case the IP allocation is given)

Press apply at the bottom of the screen.

NOTE: Only the above options can be changed on this page. Other options must remain as default. In case any options were altered, please refer to Basic page figure above.

NOTE: Once the apply button is pressed, the gateway Wi-Fi adapter stops sharing the Wi-Fi hotspot and changes the connection to the configured Wi-Fi network. In case the DHCP is used, the gateway now has a new IP address. The new IP address is needed to reconnect to the gateway (e.g., to check the Status page or scan the devices within the gateway’s range). Your local IT department can find the gateway’s IP address by accessing the Wi-Fi router device list or by performing a network scan for IP addresses. In the case of a static IP being used, the address is known.

NOTE: Connect your computer, tablet, or mobile phone to the same Wi-Fi network the gateway is connected to. Open your web browser and type the new IP address into the address field, then press enter. Access to the gateway configuration pages is established again.

NOTE: If there was an error in the SSID, password or IP address configurations, you can no longer access the gateway. In this case, the gateway isn't shown in Wi-Fi router device list or in a network scan. To resolve, press and hold the reset button on the bottom of the gateway for 10–15 seconds to reset the gateway back to factory default values.

2.6 Sensor monitoring, OPC-UA server, and EtherNet/IP configurations

For this part of the gateway configuration, please refer to the X2000 Gateway – On-Premise user guide as referenced in section 2.1 of this document.

! Prior to configuring the gateway, read section 1 of the user guide thoroughly to learn more about gateway operation, system requirements, and supported systems.

! Prior to adding sensors to the gateway, read section 3 of the user guide thoroughly to learn about the gateway interface capabilities.

2.7 Verifying the configuration

Confirm that the settings from the Basic page (top section) and Container pages (port forwarding configuration section) match the settings from the following figures.

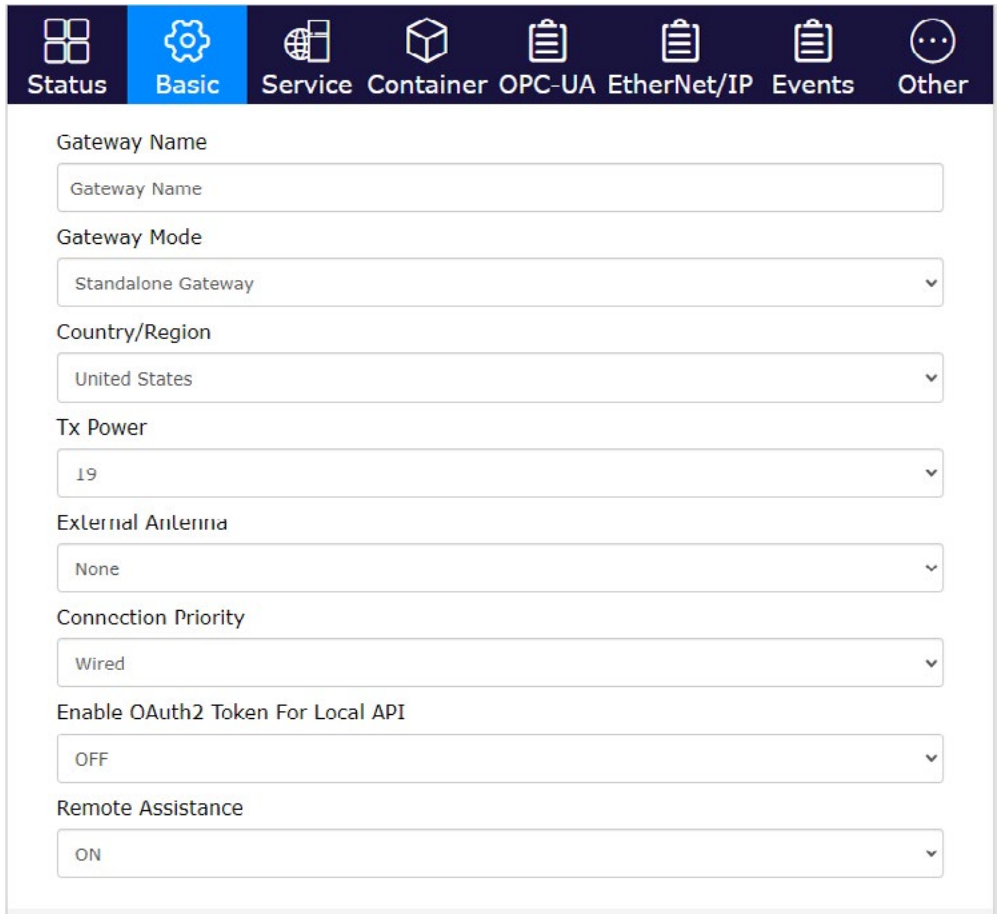


Figure 8 - Basic page, top section settings

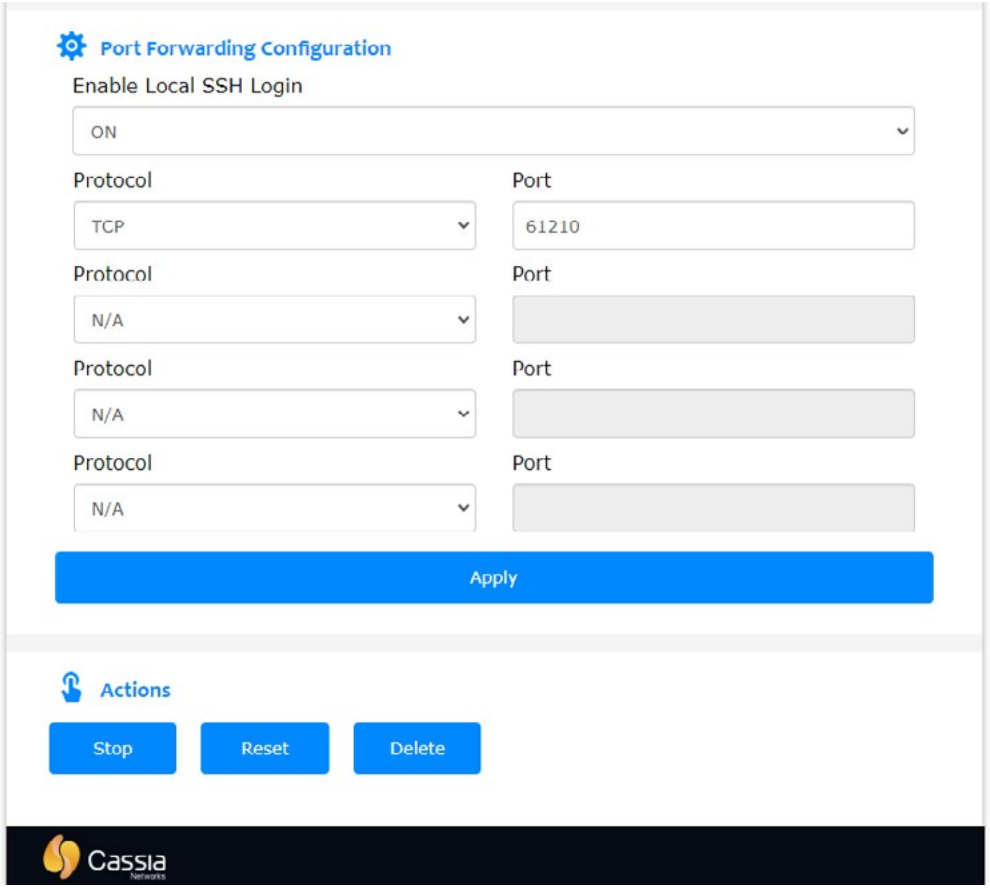


Figure 9 - Container page, port forwarding configuration

Press apply at the bottom of the screen on each page once changes have been made.

3 TROUBLESHOOTING

If you forget your login credentials or make a mistake while configuring the Wi-Fi networks' SSID or password:

- Press and hold the reset button on the bottom of the gateway for 10–15 seconds to reset the gateway back to factory default values. This button is located under a cap labeled "reset".

If the gateway does not generate the Wi-Fi hotspot for setup:

- Check the power supply and verify the green LED on the bottom of the gateway is on
- If the gateway is configured to use a Wi-Fi network, it does not generate a Wi-Fi hotspot
- Press and hold the reset button on the bottom of the gateway for 10–15 seconds to reset the gateway back to factory default values

! **NOTE:** If gateway is reset to factory default values, some important settings from the Basic page (top section) and container (port forwarding configuration section) pages will be altered. Refer to section 2.7 to make the necessary changes.

4 SUPPORT

For additional support, please contact the Dodge IIoT Technologies team:

- Email: engineering@support.dodgeindustrial.com
- Phone: +1 864 284 5700 ext. 6
- Availability: Monday-Friday, 8 am-5 pm EST

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