Connecting a Sierra Wireless LX40 LTE Router to an Eaton Network Card

Introduction

This document provides instructions for connecting a Sierra Wireless LX40 LTE Router to one of the following Eaton connectivity cards:

- Industrial Gateway Card (INDGW-M2)
- Gigabit Industrial Gateway X2 Card (INDGW-X2)
- Gigabit Network (Network-M2)

NOTE The Network-M2 has now reached end-of-life (EOL) status.

Prerequisites

- Eaton UPS with a INDGW-M2, INDGW-X2, or Network-M2 card loaded with the latest firmware
- Environmental Monitoring Probe Gen 2
- PredictPulse LTE Modem Kit, part number P-154000455

NOTE The router contained in the PredictPulse LTE Modem Kit must be powered by a 120V electrical outlet powered by the UPS. This ensures that the router is protected during a power outage. If no UPS-protected outlet is available, a Universal Accessory Power (UAP) kit is required. The UAP must be installed by an Eaton technician. Contact your Eaton service representative for a quote.

- USB-to-USB (MicroUSB B)
- CAT5 ethernet cable
- Download the latest card firmware and RNDIS driver from the Eaton product site:
  - For the INDGW-M2 card, go to https://www.eaton.com/us/en-us/catalog/backup-power-ups-surge-it-power-distribution/eaton-industrial-gateway-card.resources.html
  - For the INDGW-X2 card, go to https://www.eaton.com/us/en-us/catalog/backup-power-ups-surge-it-power-distribution/eaton-gigabit-industrial-gateway-card.html.

  Go to the **Resources** page and scroll down to the **Software, firmware, and applications** section. Click the links to download the firmware and RNDIS driver files.

INDGW-M2 or INDGW-X2 Card Installation

The hot-swappable INDGW-M2 and INDGW-X2 cards (see Figure 1 and Figure 2) can be installed without turning off the UPS or disconnecting the load. To install the card:

1. Ensure that the UPS has logic power.
2. Remove the two screws securing the Minislot or X-slot cover and remove the cover from the UPS. Retain the screws.
3. Remove the INDGW-M2 or INDGW-X2 card from its shipping package.
4. Slide the card into the open slot. Secure with the screws removed in Step 2.
5. Wait for the Warning LED (see Figure 1 or Figure 2) to flash only green to indicate that the card is operational. The **ON** LED also flashes green when the card is ready.

Figure 1. INDGW-M2 Card

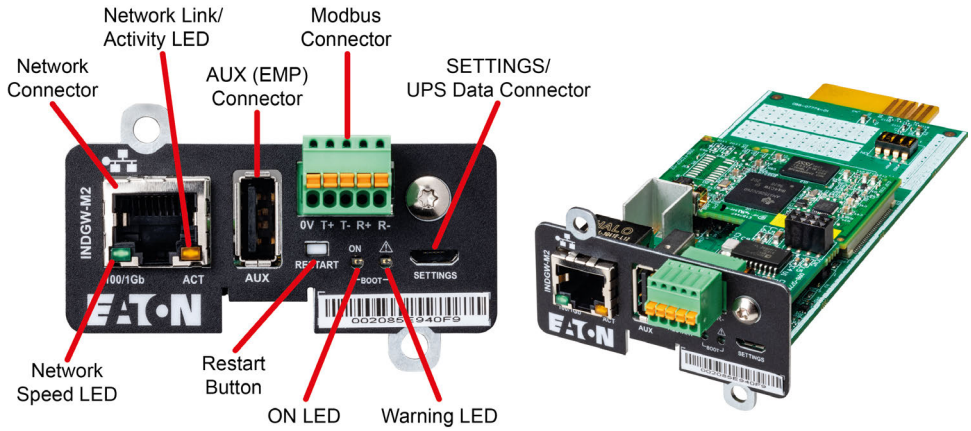


Figure 2. INDGW-X2 Card

6. Connect a USB cable from the **SETTINGS** port of the INDGW-M2 or INDGW-X2 card to a USB port on the laptop.
   - Windows will automatically detect the INDGW-M2 or INDGW-X2 card connection

NOTICE

If Windows does not automatically detect the INDGW-M2 or INDGW-X2 card, contact the Brightlayer Data Center at 800-356-5737, option 2, option 2 to troubleshoot.

7. Open a web browser and enter **https://169.254.0.1**. You are prompted to log in.
8. Log in using the username **admin** and password **admin**.
9. You are prompted to change your password.
10. Enter the new password ***Eaton123!***, re-enter the new password, and press **Submit**.

NOTICE

Entering a password other than *Eaton123!* will cause the PredictPulse activation to fail.

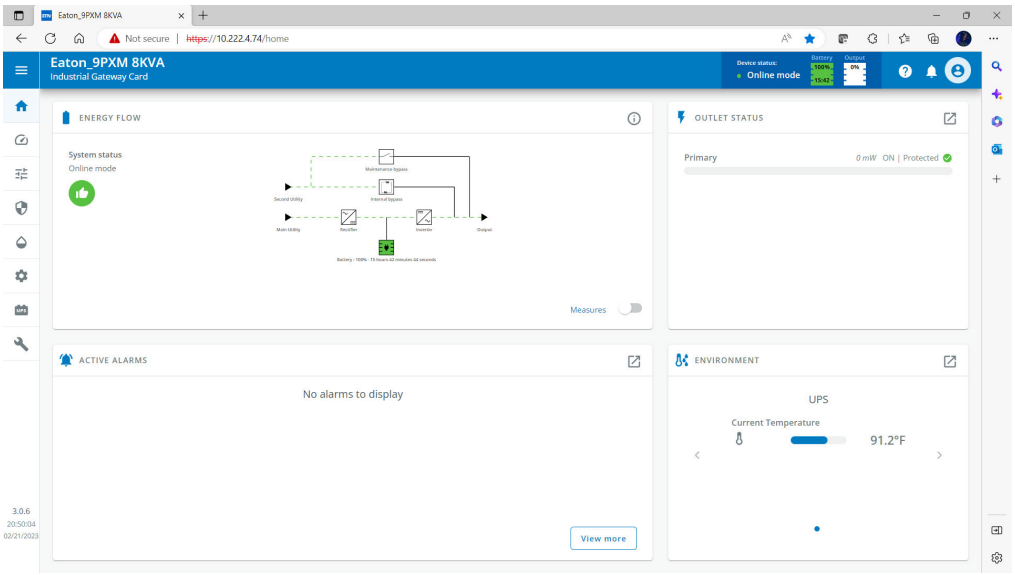
11. Read and accept the license agreement.

12. The INDGW-M2 or INDGW-X2 card home page displays (see Figure 3).
13. The green **ON** LED should be flashing to indicate that the card is operating normally (see Figure 1 or Figure 2).

NOTICE

If the green **ON** LED is not flashing, the INDGW-M2 or INDGW-X2 card may need to be reset. Remove the card to reset it, wait 10 seconds, plug it back in, and wait 3 minutes. If the LED still does not flash, contact the Brightlayer Data Center at 800-356-5737, option 2, option 2 to troubleshoot.

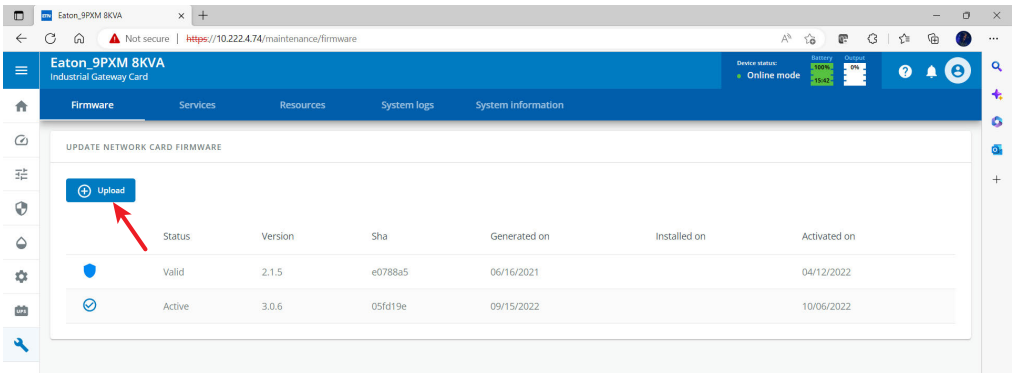
Figure 3. INDGW-M2 or INDGW-X2 Home Page



INDGW-M2 or INDGW-X2 Card Firmware Update

1. As noted in the *Prerequisites* section, the installation requires the latest card firmware. To view the firmware installed on the INDGW-M2 or INDGW-X2 card, click the **Maintenance** (wrench) icon on the card home page (see Figure 3). The **Firmware** tab shown in Figure 4 displays.
2. The *Version* column shows the firmware version of the card. To check the latest firmware for the network card:
   - For an INDGW-M2 card, go to https://www.eaton.com/us/en-us/catalog/backup-power-ups-surge-it-power-distribution/eaton-industrial-gateway-card.html
   - For an INDGW-X2 card, go to https://www.eaton.com/us/en-us/catalog/backup-power-ups-surge-it-power-distribution/eaton-gigabit-industrial-gateway-card.html
3. Click **Resources**, then scroll down and expand the **Software, firmware, and applications** section.

Figure 4. INDGW-M2 or INDGW-X2 Card Firmware Tab



4. Note the latest available firmware version. If that version is later than the one on the network card, update the card firmware:
   a. Click the link to download and save that file to a known location.
   b. Remain connected to the card via the USB cable using the redirected IP address **http://169.254.0.1**.
   c. Select **Maintenance** from the left-hand menu and select **Firmware** at the top to display the **UPDATE FIRMWARE** page (see Figure 4).
   d. Click **Upload** to load the latest firmware to the card. Click **Choose File** to navigate to the firmware file saved in Step 4.b.
   e. Select the firmware file and click **Upload**.
   f. When the firmware update is completed, a prompt is displayed. Allow the card to reboot and wait 2–4 minutes for completion.
   g. Log into the card, return to the **Firmware** tab, and confirm that the firmware updated was successful.

Environmental Monitoring Probe (EMP) Gen 2 Installation

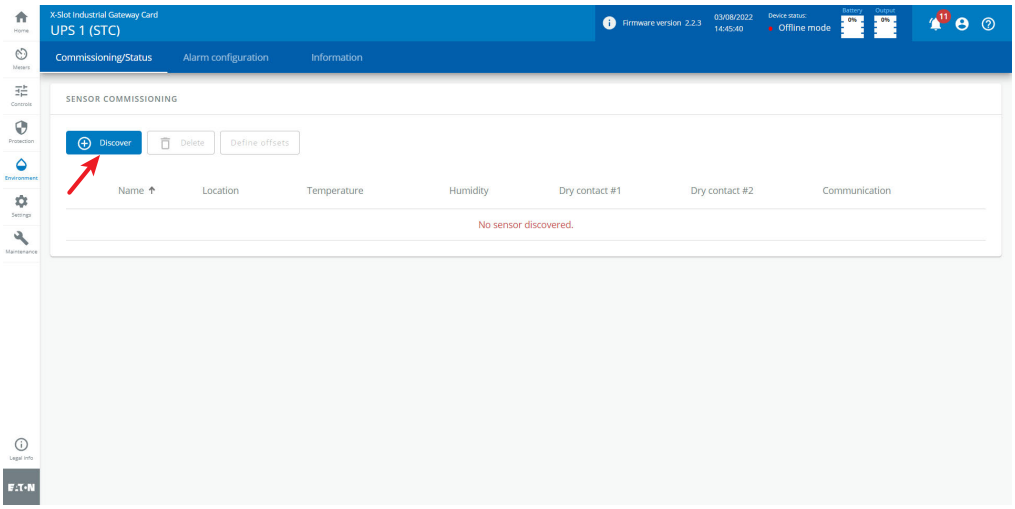
1. Remove the EMP and cable from the packaging.
2. Install the EMP as directed in the Environmental Monitoring Probe Gen2 EMPDT1H1C2 Installation Instructions.
   - Set the **MODBUS ADDRESS** switches on each EMP as appropriate for your application (see Figure 5). For example, for an application with one EMP, set the switches as shown in Figure 5, with switch **1** and **TER** (termination) in the **1** position. For a multiple-EMP application, at least one switch must be set on each EMP in in the daisy-chain and the **TER** switch set on the last EMP in the daisy-chain.

NOTE If the double-sided tape provided with the EMP is not used to attach the EMP, it may be used to secure the Sierra Wireless LX40 LTE router (see *Installing and Connecting the Sierra Wireless LX40 LTE Router*.

Figure 5. EMP MODBUS ADDRESS Switches

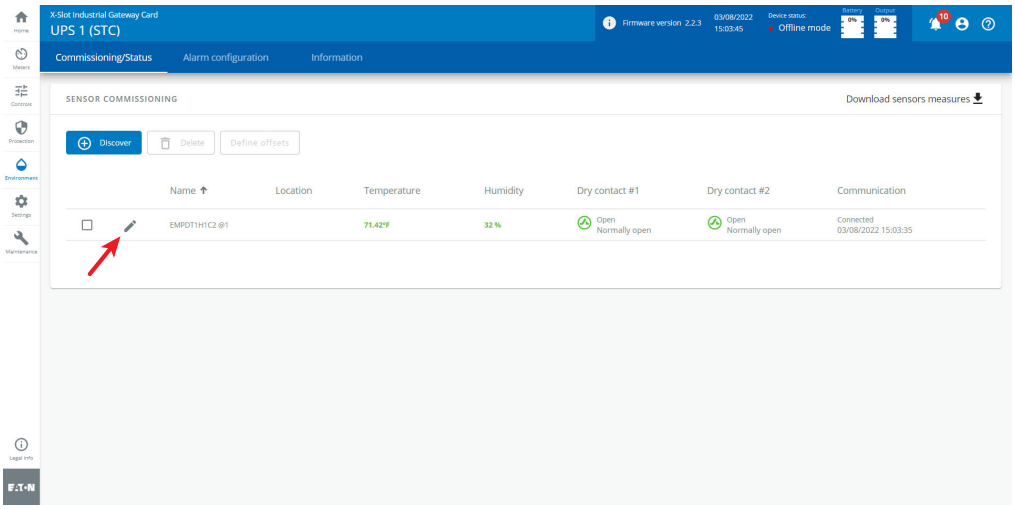
3. Connect the USB end of the cable to the **AUX** port on the INDGW-M2 or INDGW-X2 card and the RJ45 end to the **FROM DEVICE** port on the EMP. If possible, route the cable into the battery cabinet and place the EMP in the battery cabinet.
4. On the INDGW-M2 or INDGW-X2 home page (see Figure 3), select **Environment** from the left-hand menu to display the **SENSOR COMMISSIONING** page (see Figure 6).

Figure 6. Sensor Commissioning Page



5. As shown in Figure 6, no sensors have yet been discovered in the system. Click **Discover** to identify the EMP sensor(s). When discovered, the EMP is displayed as shown in Figure 7.
   - If no device is found, verify the EMP connections and settings and click **Discover** again.

Figure 7. EMP Sensor Discovered



Network-M2 Card Installation and Configuration

For instructions on installing and configuring a Network-M2 card, refer to the document PredictPulse™ Setup for an Eaton® Gigabit Network (Network-M2) Card.

Installing and Connecting the Sierra Wireless LX40 LTE Router

Refer to the *Quick Start Guide* provided with the Sierra Wireless LX40 LTE router for additional instructions on mounting the router and connecting power.

NOTE The router must be powered by a 120V electrical outlet powered by the UPS. This ensures that the router is protected during a power outage. If no UPS-protected outlet is available, a Universal Accessory Power (UAP) kit is required. The UAP must be installed by an Eaton technician. Contact your Eaton service representative for a quote.

To install the Sierra Wireless LX40 LTE router:

1. Unpack the shipping carton and ensure it contains (see Figure 8):
   - One Sierra Wireless LX40 router
   - One AC adapter
   - One antenna
   - One CAT6 cable
2. Install the router in a suitable location.

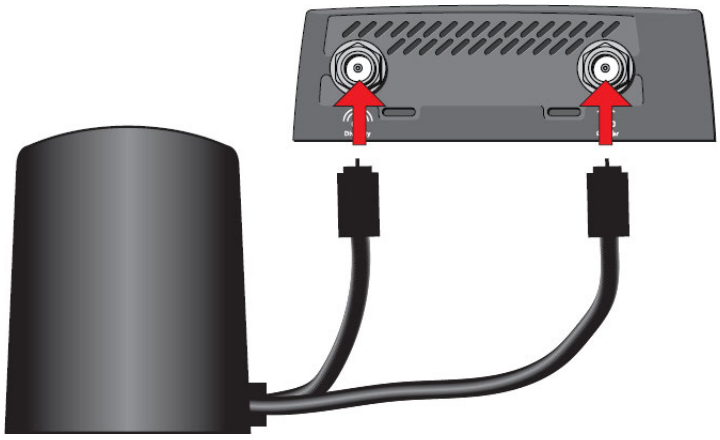
NOTE If the double-sided tape provided with the EMP is not used to attach the EMP, it may be used to secure the Sierra Wireless LX40 LTE router (see *Environmental Monitoring Probe (EMP) Gen 2 Installation*).

Figure 8. Sierra Wireless LX40 LTE Router Kit Contents

3. Install the antenna and connect it to the router (see Figure 9). The magnetic base of the antenna can be affixed to a any metal surface.

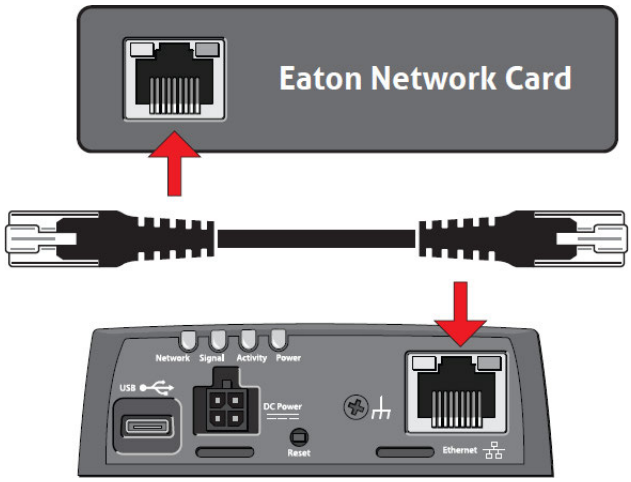
NOTE To operate properly, the antenna must be installed in an upright position.

Figure 9. Connect the Antenna to the Router



4. Connect the router to the network card using the provided CAT6 cable (see Figure 10). If the network card card is located inside the UPS chassis, route the cable out of the chassis via a conduit hole that is protected by a rubber grommet.

Figure 10. Connect the Router to the Network Card Using the CAT6 Cable



5. Plug the AC adapter into a UPS-powered 120V outlet and connect the adapter to the router (see Figure 11).

Figure 11. Connect the AC adapter to the Router

6. Allow at least three minutes for the router to boot.
7. Once connected, the LEDs on the network card's Network port should light and the green LED at the top left of the **SETTINGS** port should blink.

PredictPulse Activation

The Sierra Wireless LX40 LTE Router comes pre-programmed with an app that will automatically activate the network card for PredictPulse.

NOTE The registration process to activate the unit for PredictPulse may take 15 minutes or more. To ensure the PredictPulse activation was successful, call the Brightlayer Data Center at 800-356-5737, option 2, option 2 for assistance.

PredictPulse Remote Monitoring Activation Completion Checklist

- https://PredictPulseapp.eaton.com account enrollment complete
- Universal Accessory Power kit installed (if no UPS protected outlet is available for the modem and/or network switch to plug into. Must be installed by an Eaton technician, contact your Eaton service representative for a quote.)
- PredictPulse-compatible network connectivity card installed
- Connectivity card upgraded to latest firmware
- Environmental Monitoring Probe connected
- Sierra Wireless LX40 LTE router installed and connected to network card
- PredictPulse auto-activated by the router
- Call placed to Brightlayer Data Center at 800-356-5737, option 2, option 2 to confirm portal activation and communication receipt

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