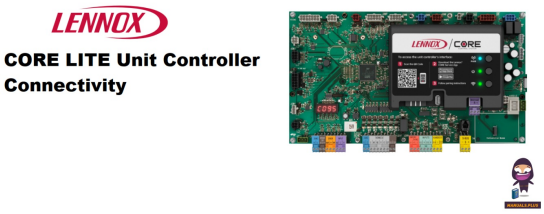
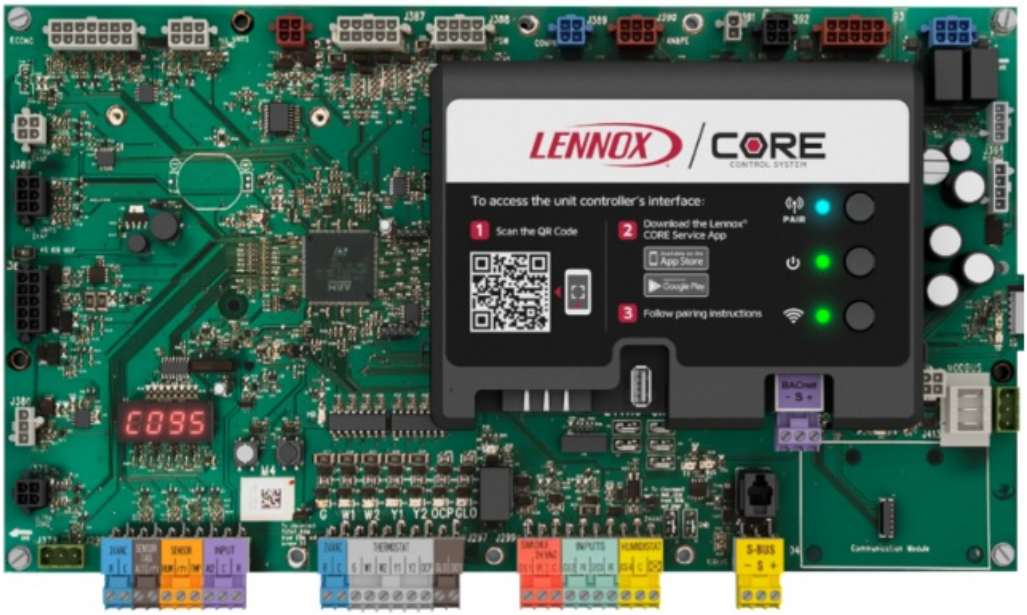


LENNOX CORE LITE Unit Controller Connectivity Owner's Manual

Contents

LENNOX CORE LITE Unit Controller Connectivity



The Lennox CORE Lite Controller provides built-in S-BUS support for simple connection to the Lennox Comfort Sense family, such as the CS8500. Optional BACnet MS/TP modules support all existing objects from the Lennox CORE Controller and legacy Lennox control devices.

TO LEARN MORE ABOUT THE CORE LITE CONTROLLER, CONTACT YOUR LENNOX SALES REPRESENTATIVE.

BACKWARDS COMPATIBILITY
Support for MS/TP and legacy control objects means that Xion equipment, now equipped with the advanced control of the CORE Lite will install directly onto most Energence and L-Series control frameworks, with little modified programming or integration work required. The CORE Unit Controller supports monitor-only, room sensor, and network thermostat control, allowing you to choose how you want your system to operate.

Contact your Lennox Sales Representative to learn more about the CORE Lit Controller. Due to Lennox' ongoing commitment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability.

Key Connectivity Features

1. **Wi-Fi Connectivity:**
    - The Lennox Core Lite controller can be connected to a Wi-Fi network, allowing users to control HVAC systems remotely via the **Lennox iComfort** mobile app or other compatible smart home systems.
    - This allows for real-time monitoring and control from anywhere with an internet connection.
2. **BACnet Protocol:**
    - The Core Lite Unit Controller supports **BACnet/IP** communication, a widely used protocol in the building automation industry.
    - It enables seamless integration with a variety of **BMS (Building Management Systems)**, allowing for centralized control and monitoring of HVAC units alongside other building systems.
    - This integration helps improve energy efficiency and operational oversight.
3. **Modbus Communication:**
    - The controller also supports **Modbus RTU** or **Modbus TCP/IP** protocols, commonly used in industrial settings.
    - It allows easy connection to Modbus-compatible devices, making it ideal for more complex HVAC

systems or for retrofitting older systems into modern, connected environments.

4. **Ethernet/Local Area Network (LAN) Connectivity:**
    - The unit can be connected to a wired LAN, offering **stable and secure communication** for large-scale systems or environments where Wi-Fi may be unreliable.
    - This also allows for faster data transfer and reliable system control.
5. **Cloud Connectivity:**
    - Lennox Core Lite can be configured to sync with cloud-based platforms, enabling advanced analytics and monitoring. This feature can provide valuable insights into system performance and energy usage.
    - Cloud integration can also simplify software updates and allow for remote diagnostics.
6. **IoT (Internet of Things) Integration:** As part of the growing trend in smart building solutions, the Core Lite Unit Controller can be integrated into larger IoT ecosystems. This allows it to work in concert with other IoT-enabled devices for enhanced automation, such as lights, blinds, and other smart home devices.
7. **Data Logging and Remote Access:**
    - The unit can log performance data such as temperature, humidity, system status, and energy consumption. This data can be accessed remotely via a secure connection, helping service technicians and building managers identify issues or inefficiencies.
    - Remote diagnostics also enable troubleshooting without the need for on-site visits, reducing downtime and maintenance costs.

How to Configure Connectivity

1. **Wi-Fi Setup:**
    - The controller has an intuitive interface for connecting to a Wi-Fi network. Users can follow simple steps through the **Lennox iComfort app** or web interface to input network credentials.
    - Ensure that the Wi-Fi network has adequate signal strength and is compatible with the unit's communication requirements (usually 2.4 GHz).
2. **BACnet and Modbus Integration:**
    - If connecting to a BMS or Modbus-enabled devices, ensure that the appropriate communication settings (such as IP address for BACnet or slave ID for Modbus) are configured in the unit controller's settings menu.
    - Detailed wiring and network setup guides can be found in the user manual for configuring these connections, as both protocols require physical setup of communication cables.
3. **Firmware Updates:**
    - The unit supports **over-the-air (OTA) firmware updates**. When connected to the internet, the system can check for firmware updates automatically. These updates help maintain security and improve functionality.
    - Manual updates can also be performed through a USB connection if needed.
4. **Cloud and Remote Monitoring Setup:**
    - To enable cloud monitoring, ensure the unit is linked to the appropriate cloud platform provided by Lennox or your third-party IoT solution.
    - Access permissions and user accounts can be configured to restrict or grant control to different stakeholders, such as facility managers or maintenance teams.

Advantages of Lennox Core Lite Connectivity

- **Remote Monitoring and Control**: Provides easy access to HVAC settings, even when you're away from the site.
- **Energy Efficiency**: Integration with BMS systems allows for optimized performance and energy savings.
- **Real-time Alerts**: Notifications on system performance and potential failures allow for proactive maintenance.
- **Easy Integration**: Works seamlessly with other building systems and IoT devices.
- **Cloud-based Insights**: Offers valuable data on system usage, helping you make data-driven decisions to improve efficiency.

Advanced Connectivity Features

1. **Multi-Unit Synchronization:**
    - The Lennox Core Lite Unit Controller is ideal for controlling multiple HVAC units across a building or facility. With its advanced communication capabilities, it can synchronize and control various systems from a centralized point. Whether it's multiple air handlers or a series of rooftop units, all units can be monitored and adjusted to ensure uniform comfort levels across large spaces.
2. **Zoning Capabilities:**
    - The unit controller allows you to create customized **HVAC zones**, which is essential in large commercial or residential spaces. Each zone can be controlled independently based on temperature, humidity, or occupancy, providing **precise control** over the environment.
    - By connecting the controller to a BMS or a compatible app, you can adjust these zones remotely and save energy by regulating areas that are not in use.
3. **Third-Party Integration:**
    - **Integration with Other IoT Devices:** In addition to connecting with BMS and Modbus devices, the Core Lite Unit Controller can integrate with a variety of third-party systems, such as **smart thermostats**, **sensors**, and even other smart home devices (e.g., lights, shades).
    - It can be connected to **Amazon Alexa**, **Google Assistant**, or **Apple HomeKit** for voice control, adding an extra layer of convenience and flexibility.
4. **Energy Management Systems (EMS):** The controller can also interface with energy management solutions, optimizing HVAC performance in alignment with other energy-saving technologies, such as **solar panels** or **battery storage** systems.
    - **Data Analytics & Reporting:** The Core Lite unit isn't just about controlling HVAC systems—it's also about gathering **data for better decision-making**. By integrating with the cloud or your BMS, you can access detailed **performance reports**, including:
    - **Energy consumption** and trends
    - **Temperature and humidity data** for different zones
    - **Service diagnostics**, including historical data on system performance and failure rates
      These analytics help in identifying potential inefficiencies and areas for improvement, leading to reduced energy bills and optimized HVAC performance over time.
5. **Advanced Control via Web Interface:**
    - In addition to mobile apps, the Lennox Core Lite also provides a **web-based interface** for HVAC management. This gives building managers or facility owners the ability to control and monitor the HVAC system via any device with an internet connection, from desktop computers to tablets.
    - The web interface often comes with **advanced features** such as:
    - Detailed graphs and historical data visualizations

- Custom alerts and notifications
- User permissions for multiple stakeholders (e.g., allowing building managers to monitor while limiting control to maintenance teams)

6. **Voice Control (Amazon Alexa, Google Assistant):**
    - If the Lennox Core Lite is integrated with **Amazon Alexa** or **Google Assistant**, you can control the HVAC system using simple voice commands. This can be especially useful in residential or commercial environments where hands-free operation is desired.
    - Example voice commands include:
    - “Alexa, set the temperature to 72 degrees.”
    - “Hey Google, turn off the HVAC system in the conference room.”

How to Set Up Advanced Connectivity

1. **Connecting to Wi-Fi:**
    - To connect the **Core Lite Unit Controller** to your home or building’s Wi-Fi network, follow the steps in the **user manual** or the **Lennox iComfort app**:
    - Ensure the controller is powered on and that the network is available.
    - Use the app or controller’s LCD screen to select your Wi-Fi network and enter the correct password.
    - Once connected, the system will automatically sync with the Lennox cloud platform, enabling remote access from any compatible device.
    - For **larger commercial applications**, ensure the Wi-Fi signal strength is adequate throughout the building. If the Wi-Fi signal is weak in some areas, consider adding Wi-Fi extenders.
2. **Configuring BACnet or Modbus Communication:**
    - To connect the unit to a **Building Management System (BMS)** via **BACnet** or **Modbus**, configure the controller’s **communication settings**:
    - In the web interface, select the protocol (BACnet/IP, Modbus RTU, or Modbus TCP/IP).
    - Set the appropriate **IP address** for BACnet or the **Modbus slave address**.
    - Configure the **ports** and **communication parameters** based on the specifics of your BMS or other devices.
    - Once configured, verify the system’s connection by checking the communication status or using diagnostic tools provided in the interface.
3. **Connecting to Cloud and Remote Access:**
    - For cloud integration, make sure that the unit is correctly linked to your **Lennox cloud account**. This enables you to monitor and control your HVAC systems via the **Lennox iComfort app** or web portal.
    - In the cloud interface, you can:
    - Set up customized **alerts** (e.g., when the temperature goes beyond a certain range)
        - Monitor historical data on energy usage, temperatures, and more
        - Schedule system adjustments based on time of day or occupancy (ideal for commercial buildings)

Troubleshooting Common Connectivity Issues

1. **Wi-Fi Connectivity Issues:**
    - **Network Congestion:** If there’s heavy traffic on the network or too many connected devices, the Core Lite may have trouble maintaining a stable connection. Try reducing network load or moving the router closer to the unit.

- **Router Compatibility:** Make sure your router supports 2.4 GHz Wi-Fi, as the Core Lite may not be compatible with 5 GHz networks.
- **Rebooting the Unit:** If connectivity drops, try rebooting the Core Lite by powering it off and on again.

2. **Modbus or BACnet Configuration Problems:**
    - **Incorrect IP Address or Slave Address:** Double-check the settings for the **IP address** (for BACnet) or **slave address** (for Modbus) to ensure they match the settings in the BMS or external system.
    - **Faulty Wiring:** Ensure that communication cables are securely connected and that there are no short circuits. Also, verify that the correct **communication ports** are used.
    - **Protocol Mismatch:** Verify that the correct communication protocol (BACnet/IP, Modbus TCP/IP, etc.) is selected on both the controller and connected devices.
    - **App and Cloud Connectivity Issues:**
    - **App not Syncing:** If the mobile app isn't syncing with the unit, check that both the app and the Core Lite unit have the latest software/firmware updates. Ensure the mobile device is connected to a stable internet connection.
    - **Cloud Sync Issues:** If the unit fails to sync with the cloud, ensure the unit is properly connected to the internet via Wi-Fi or Ethernet. You may also need to check if there's any maintenance or downtime with the Lennox cloud servers.
3. **Security Considerations:**
    - Ensure **secure password practices** for cloud or mobile app access to prevent unauthorized control of the HVAC system.
    - If connecting via Modbus or BACnet, ensure the communication network is **firewalled** or secured using encryption to prevent tampering or data breaches.

Summary of Key Benefits of Lennox Core Lite Connectivity:

- **Remote Control and Monitoring:** Full remote access via app or web interface for system control from anywhere.
- **Energy Efficiency:** Integration with building systems and advanced controls leads to optimized energy use.
- **Scalability:** Easily integrate with larger systems, whether it's additional HVAC units or BMS.
- **Ease of Use:** Simple setup and integration with common communication protocols (Wi-Fi, BACnet, Modbus).
- **Advanced Data Analytics:** Access to real-time data, energy consumption stats, and maintenance reports.

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- **Advanced Data Analytics:** Access to real-time data, energy consumption stats, and maintenance reports.

Documents / Resources

	LENNOX CORE LITE Unit Controller Connectivity [pdf] Owner's Manual CORE LITE Unit Controller Connectivity, CORE LITE, Unit Controller Connectivity, Controller Connectivity, Connectivity

References

- **User Manual**