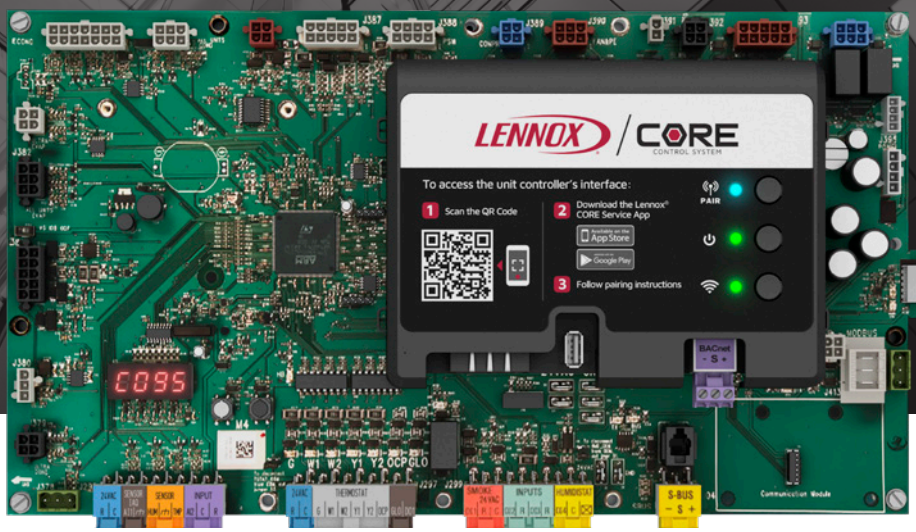
LENNOX

CORE

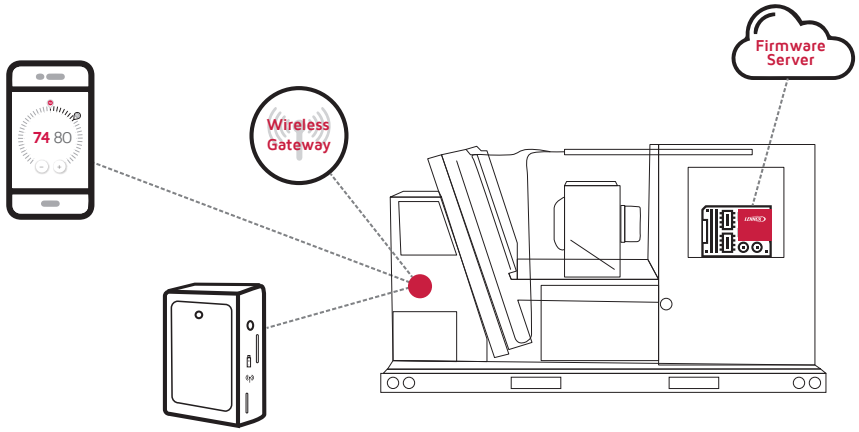
CONTROL SYSTEM



RELIABLE WIRED AND WIRELESS TECHNOLOGIES

Lennox® CORE Control System utilizes wireless sensors, mobile service app, and a built-in wireless gateway to deliver the lowest cost of ownership.

CORE CONTROL SYSTEM WIRELESS ARCHITECTURE



LENNOX MODEL L

LENNOX ENLIGHT

LENNOX® CORE UNIT CONTROLLER – CONNECTED SERVICE

The CORE Control System features several layers of security which are designed to provide reliable performance based on the recommendations of NIST-SP-800 and NIST-FIPS-140-2. The CORE Control System is available standard on Model L™ and Enlight™ rooftop units.

THE CORE CONTROL SYSTEM UTILIZES THE FOLLOWING TECHNOLOGIES:

- Bluetooth® Low Energy (BLE) Radio for the Lennox® CORE Service App
- BLE Mesh for optional wireless sensors
- IP over Ethernet to Cloud for Automatic Firmware Updates and BACnet IP (if enabled)

DEVICE ENCRYPTION: The CORE Unit Controller hosts a suite of encryption ciphers that protect system and user data from unauthorized access. Cryptographic operations are performed using a hardware source for True Random Number Generation (TRNG) as recommended in FIPS-140-2. File system data is encrypted on non-volatile memory (NVM) so that it cannot be accessed if the hardware is tampered with.

NETWORK ENCRYPTION: The CORE Control System uses several different encryption methods on various network interfaces to prevent unauthorized reading or writing of data. The wireless network provided by CORE Control Systems is entirely separate from a building's traditional WiFi network, preventing unnecessary risk to users.

1.) The CORE Service app utilizes AES encryption to maintain a secure link to the CORE Unit Controller while service is being performed on the unit. A physical button press on the unit is required to initiate the pairing process, and units cannot be re-paired without physical access.

2.) The CORE Unit Controller uses Mutual Transport Layer Security (TLS) to download firmware from Lennox's secure cloud environment if a user wishes to enable this service. This service is available via the Ethernet Port on the CORE Unit Controller. TLS prevents the download of non-certified firmware to the device.

3.) The BLE Mesh networks created between the CORE Unit Controller and any Lennox wireless sensors utilize unique device keys and encrypt all messages using AES to prevent unauthorized access as well as prevent replay attacks within the network. This wireless security implementation follows the specific requirements of the Bluetooth Special Interest Group (SiG).

FIRMWARE VALIDATION: The CORE Unit Controller utilizes an isolated hardware-based Secure Boot Manager to ensure that the device can only be run with authentic Lennox Firmware to prevent potentially malicious operation. Firmware updated through USB or via the Lennox cloud is verified before it can be installed. Additionally, the system maintains a backup of signed firmware should a fault occur.

AUDIT & CONTINUED SUPPORT: The CORE Control System has been audited by external 3rd parties* with an array of tests to validate the above claims and design. Firmware updates for the CORE Unit Controller are provided to the customer free of charge and can be deployed manually via USB/Cloud, or can be automatically pulled through the cloud to keep the system running safely and securely. Additional information on the CORE Control System, Model L, Enlight, and Lennox wireless sensors is available upon request for interested customers.

	CORE Unit Controller	CORE Service App	Wireless Sensors
Encryption	True Random Number Generation (TRNG) NVM Encryption TLS 1.2 (Cloud API)	BLE Direct Connection (AES)	BLE Mesh (AES) Unique Device Keys Network Blacklisting
Firmware Validation	Signed Firmware Secure Boot Management (Hardware Security)	Not Applicable (iOS and Android Native Applications)	Not Applicable (Not Field Upgradable)
Authentication	Cloud Authentication (Mutual TLS)	Requires Physical Access to device	Requires Physical Access to device
Certifications	Audited by External 3rd Party for All functionalities*		

Join the rooftop revolution by contacting your Sales Representative today!

*Due to Lennox' ongoing commitment to quliaty, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability. Audits on equipment and result to be released prior to complete product launch.

3/2022 LC1004_SS_CORE SECURITY