Lennox L40 Smart Thermostat

Installation and Setup Guide

03/25
508674-01

508674-01 3/2025

Supersedes 1/2025
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Dallas, Texas, USA

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Shipping and Packing List

Table 1. Packing List

Quantity	Description
1	Lennox L40 Smart Thermostat
4	Mounting screws (#6 x 1.25 SMS pan head Phillips)
4	Wall anchors (alligator flanged wall anchors)
1	Quick Start guide
1	Cover Plate
1	Back Plate
1	Warranty certificate

Smart Applications

The Lennox L40 Smart Thermostat is a residential, touch-screen, Energy Star certified wall unit. It offers features such as:

- Wi-Fi
- Bluetooth
- Remote monitoring
- Advanced Diagnostics (Remote-In)
- Temporary Advanced Diagnostics
- Connectivity with Lennox® Smart Tech

Lennox® Home Application (Homeowner)

- The free *Lennox® Home* application is available for use on iOS and Android™ devices
- Controls cooling/heating temperatures, fan operation, set programs (such as Sleep mode and Away mode) for multiple locations
- Compatible with all 40 series thermostats

Lennox® Smart Tech (Installer)

- The free Lennox® Smart Tech application allows the installer to commission and service the system on most iOS and Android™ devices
- Remotely turn the system on and off during setup
- Dealers can create unique *Equipment Profiles* specific to products sold at their servicing dealership. Technicians can access the custom profiles while at the installation site to achieve a faster installation experience for the customer.

Download Lennox® Smart Applications

Scan the QR codes listed below to download the required application.

Lennox® Smart Tech

Google Play (Android™)

App Store (iOS)

Lennox® Home Application

Additional Support

Dimensions - Thermostat

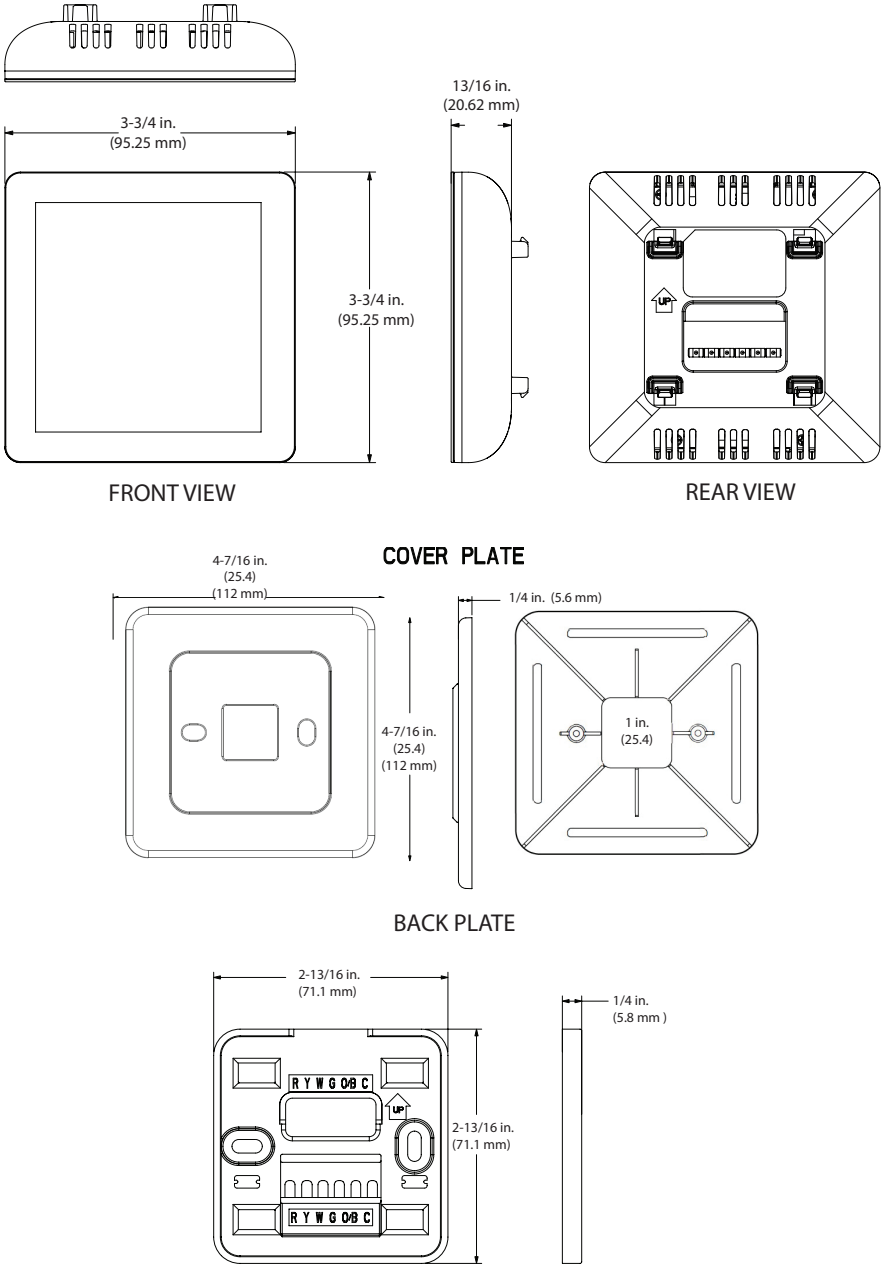


Figure 1. Lennox L40 Smart Thermostat, Cover, and Back Plate

Terminal Information

Table 2. Terminal Designations

Terminal	Purpose
O/B	Heat pump reversing valve operations. When O (default) is selected under *settings* > *advanced settings* > *terminal settings*, the relay is ON during cooling and OFF during heating. When B is selected, the relay is ON during heating and OFF during cooling.
C	Common 24VAC
G	Fan relay
W1	First-stage heating (non-heat pump or emergency heat) or second-stage heating (heat pump)
Y1	First-stage heating or cooling
R	24VAC power

Table 3. O/B Terminal Relationship States

State	Set to O	Set to B
Heat	OFF	ON
Cool	ON	OFF
Off mode	Maintain previous state	

Wiring Diagrams

System Wiring Diagrams

For system diagrams, see the included fold-out Lennox L40 Smart Thermostat Diagrams sheet.

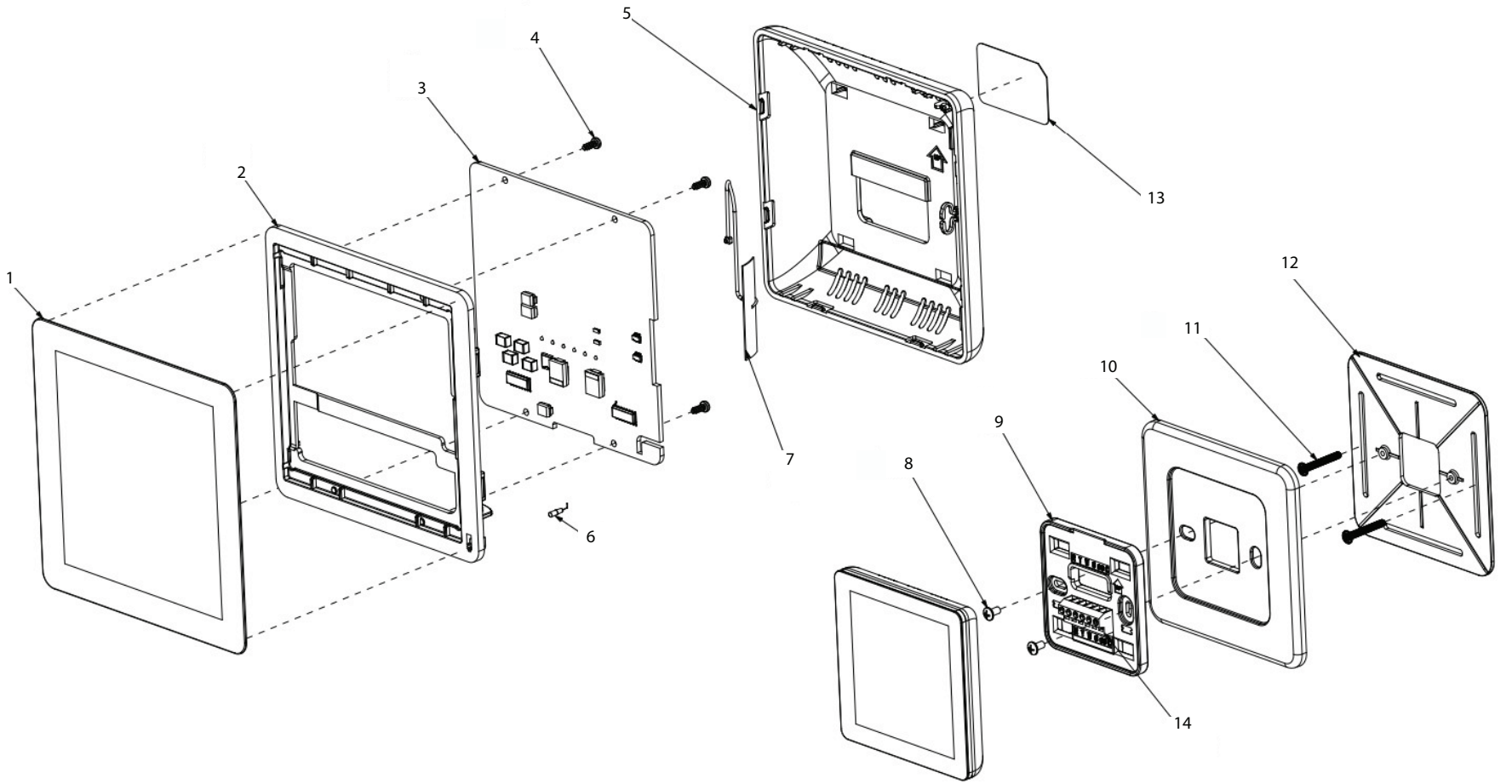
Connecting Lennox L40 Smart Thermostat Wiring

Use “Table 2. Terminal Designations” on page 4 for connecting the thermostat wiring to the back plate terminals.

If this is a replacement thermostat, connect to terminals as noted when removing the old thermostat. If terminals were different on old thermostat, use “Table 2. Terminal Designations” on page 4 and wiring diagrams provided in the kit.

NOTE: *Remember to seal the hole in the wall with a suitable material to prevent drafts from entering the thermostat case. Not doing so could affect the thermostat’s internal temperature sensor.*

Lennox L40 Smart Thermostat - Exploded View



1. LCD Module
2. Display Frame
3. PCB Assembly
4. Phillips Rounded Head Screw (4x)
5. Rear Frame
6. Thermistor
7. Antenna
8. Phillips Rounded Head Screw (2x)
9. Back Plate
10. Cover Plate
11. Stainless Steel Pan Head Phillips Screw (2x)
12. Gang Box Plate
13. Product Label
14. Back Plate Terminal Box

Lennox L40 Smart Thermostat - Installation

New Installation

The following procedure is for new installation or installing the Lennox L40 Smart Thermostat in a new location in an existing home.

1. Unpackage the thermostat; use fingers to remove the back plate from the thermostat unit.
2. Select a location for the thermostat about 5 feet (1.5 meters) above the floor in an area with good air circulation at average temperature.
3. Do not install the thermostat where it can be affected by:
   - » Drafts or dead spots behind doors and in corners
   - » Building entrances or automatic doors
   - » Heat generating equipment such as kitchen equipment
   - » Hot or cold air from ducts
   - » Radiant heat from sun or appliances
   - » Concealed pipes and chimneys
   - » Non-heated (non-cooled) areas such as an outside wall behind the thermostat
4. Run thermostat wiring from indoor unit to location where thermostat will be installed.
5. Drill or make opening through wall for thermostat wiring 3/4” x 3/4” (19mm x 19mm).
6. Pull about three (3) inches (76mm) of thermostat wire through the opening and removed outer thermostat wire jacket. This will help in routing the thermostat wiring to the proper thermostat terminals.
7. Seal the hole in the wall with a suitable material to prevent drafts from entering the thermostat case. Not doing so could affect the thermostat’s internal temperature sensor.
8. Trim 1/4 inch (6mm) insulation from end of each thermostat wire lead.

Replacement Installation

Use the following two steps to replace an existing thermostat.

1. Remove existing thermostat.
2. Note the wire colors and what terminals they are connected for future reference.

Common Installation Practices

Use the provided back plate as a template on where to drill the mounting holes.

NOTE: *Installation of back plate is optional. Use a field-provided level to allow for proper alignment.*

1. Drill 3/16” (5 mm) holes in wall for provided wall anchors. Insert provided wall anchors into drilled holes.
2. Remove back plate from main thermostat assembly using a flat-head screw driver.
3. Route thermostat wiring from wall through center openings on back plate (use is optional) and back plate.
4. Secure back plate and back plate (optional) to wall with the two provided mounting screws.

Installing Thermostat to Back Plate

1. Hold the thermostat by the edges, line it up with the back plate (horizontal position), and move the thermostat toward the back plate.
2. Center the cavity on the back of the display over the back plate.
3. Gently press on the edges of the thermostat until you hear the mounting snaps engage. Be careful not to apply force directly on the glass.

NOTE: *Once the thermostat is connected, it may take up to 45 seconds for it to power up.*

4. To remove the thermostat from the back plate, grasp the left and right edges of the thermostat and gently pull towards yourself.

NOTE: *If the thermostat is removed from the back plate, the thermostat will shut down and will not be able to communicate with the system. System can be controlled from mobile devices once registration has been completed.*

5. Do not remove the label covering the thermostat screen until after power is applied to the system.

Commissioning using Lennox® Smart Tech

This application tool is used by dealers to commission a Lennox L40 Smart Thermostat using a Wi-Fi enabled mobile device.

The connection between the thermostat and Lennox® Smart Tech is first established via Bluetooth. After a successful pairing, a direct Wi-Fi connection is made with the L40.

NOTE: *Lennox® Smart Tech only connects locally while within Wi-Fi range of the thermostat. The app cannot connect through the home Wi-Fi network or Internet.*

To use *Lennox® Smart Tech*, the mobile device must be:

- Bluetooth capable
- Wi-Fi capable
- Located in the home near the thermostat

Mobile Device Operating System Requirements

Lennox® Smart Tech is available for both iOS 15.0 and higher (App Store) and Android 12.0 and higher (Google Play). Mobile devices must have the aforementioned operating systems installed to download and use Lennox® Smart Tech.

Establishing a Direct Wireless Connection to the Thermostat

⚠ IMPORTANT

If the connection between Lennox® Smart Tech and the thermostat is idle for thirty (30) minutes, the thermostat will auto-disconnect from the mobile device. Repeat procedures to reconnect.

1. Power up the thermostat.

   The *Language* screen displays.
2. Select the desired language for the thermostat. Options are English, Français and Español.
3. Touch → to continue.

   The *Choose Setup Route* screen displays two options:

   » Smart Tech. App

   » L40 Thermostat
4. Select *Smart Tech App* and touch →.

   The *Lennox Smart Technician App* screen displays on the thermostat.
5. Select *Yes* if the app is installed on the device; Select *No*, if the app is NOT installed on the device.

   If you select *No*, touch → to download the app.

   The *Download App* screen displays.

   The screen lists QR codes to scan and download *Lennox Smart Tech* from either App Store or Google Play. If the app is already installed, touch → to continue and proceed to step 6.
6. Return to the thermostat and touch *Start* on the *Connect to Technician App* screen.
7. Touch *Start*.

   The *Broadcasting Thermostat ID* screen displays.
8. Touch *Connect to a Thermostat* in the Lennox Smart Tech App.

   The *Disclaimer* screen displays.
9. Select *Connect to a Thermostat* and touch →.

   The app searches for the thermostat.
10. Touch → after the app locates the thermostat.
11. Touch *Connect*.

    The Smart Tech App and the thermostat successfully connects.

12. Touch → and follow the on-screen instruction within *Lennox® Smart Tech* to configure a new system after a successful connection has been established between the thermostat and the app.

NOTE: *See "Table 4. Lennox Smart Tech App Configuration Screens" on page 8 for sequence of configuration.*

Configuration Screens

The following table describes the screen sequence of configuration.

⚠ IMPORTANT

Adding dealer information will ensure the thermostat is associated with your LennoxPros account when connecting to the Lennox server.

Table 4. Lennox Smart Tech App Configuration Screens

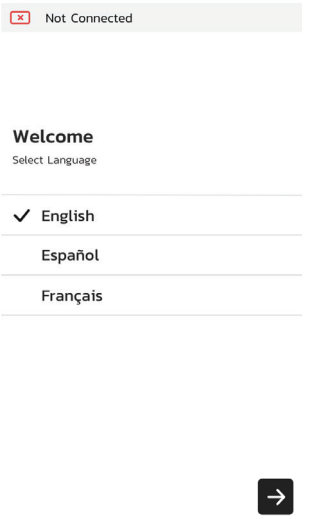
Screen Titles	Selections or Status	
(Not Connected) Select Language	English Français Español	

Table 4. Lennox Smart Tech App Configuration Screens

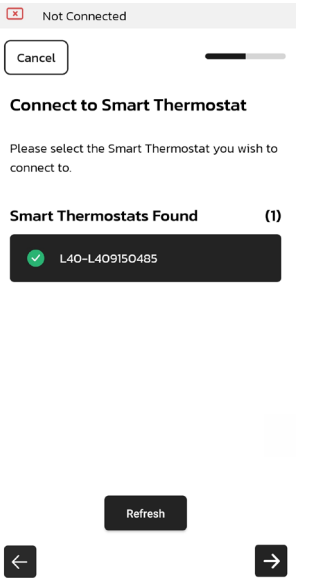
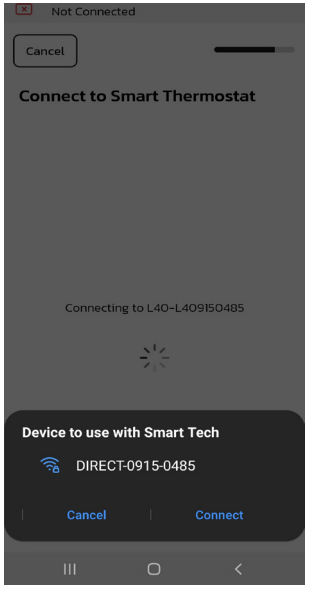
Screen Titles	Selections or Status	
Connect to Device	L40XXXXXXX will appear. It should match the thermostat ID that is displayed on the thermostat. Select the ID on the app's screen.	
Connect with Thermostat	A **DIRECT -XXXX-XXXX** will appear. Select **Connect**. A confirmation screen will appear indicating successful connection to the thermostat. Select → to continue.	

Table 4. Lennox Smart Tech App Configuration Screens

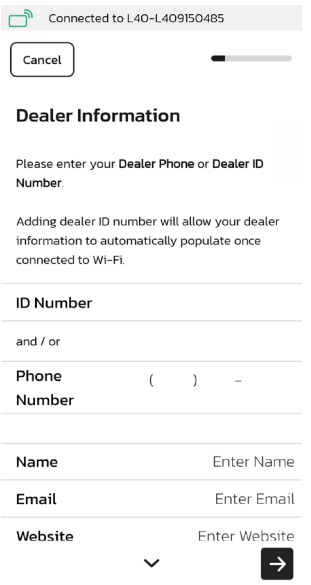
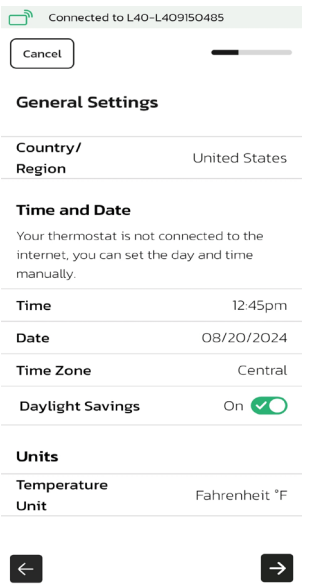
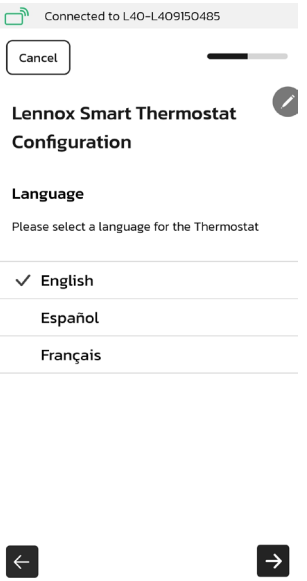
Screen Titles	Selections or Status	
Dealer Information	Add the dealer's ID number, phone number, name, email, website, and address.	
General Information	• Country/Region • Time • Date • Time Zone • Daylight Savings • Temperature Unit	

Table 4. Lennox Smart Tech App Configuration Screens

Screen Titles	Selections or Status	
Lennox Home Configuration	Language • English • Español • Français	

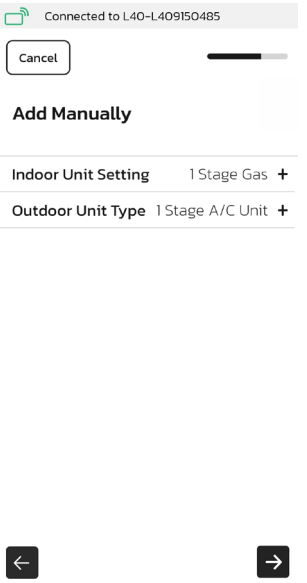
	Manage Non-Comm.Equip
	• Import Captured Equipment
	• Add Manually
	  • Indoor Unit Setting
	  • Outdoor Unit Setting
		

Table 4. Lennox Smart Tech App Configuration Screens

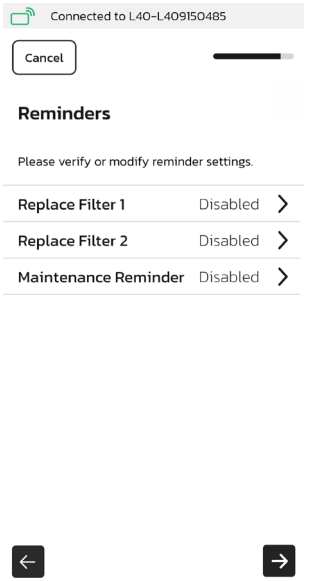
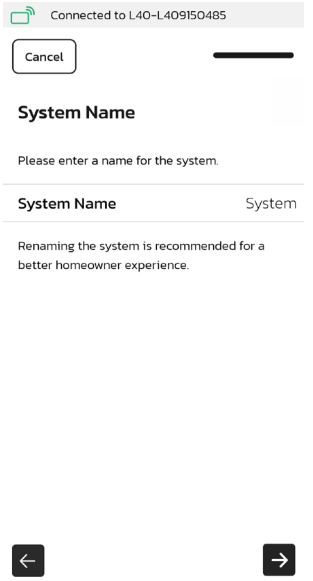
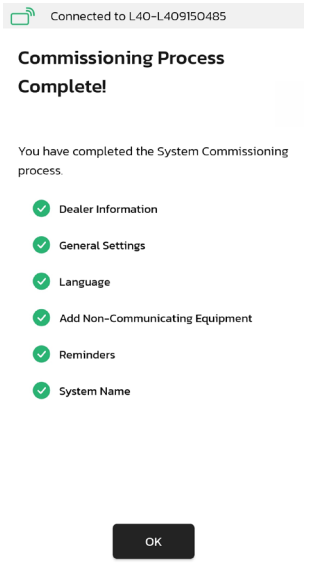
Screen Titles	Selections or Status	
Reminders	Reminders can be set for filters, UV bulb replacement, and maintenance.	
	Additional screens allow for setting filter reminders based on calender time or runtime.	
System Name	Enter a name for the HVAC system	

Table 4. Lennox Smart Tech App Configuration Screens

Screen Titles	Selections or Status	
Commissioning Process Complete	Setup is completed. Select **Finish**. This will take you to the Service Center screen to make any additional changes required to the system.	

After the configuration process is complete, the installer/service technician has two options:

» *Run Test*. Select this option to run tests on the components of the HVAC system. Select or deselect components and touch *Start* to begin tests. Touch → to scroll through results for each HVAC component.

» *Dealer Service Center.* Select to view system Notifications, Equipment Settings, Information, Tests, Diagnostics and the Installation Report.

When the service technician selects *Exit Dealer Service Center*, the Lennox Smart Tech disconnects from the thermostat.

Lennox L40 Smart Thermostat - Setup

NOTE: *The setup process is completed in conjunction with the Lennox L40 Smart Thermostat and the Lennox® Home app.*

The onboarding wizard walks the user through the thermostat setup process beginning with the *Language* screen.

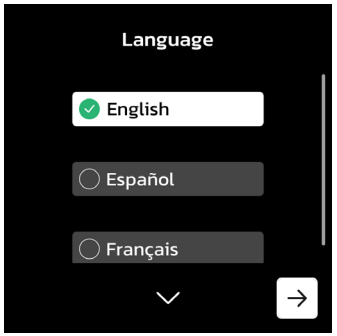


Figure 2. Language Screen

1. Select the preferred language for the thermostat; touch →.

   The *Choose Setup Route* screen displays.

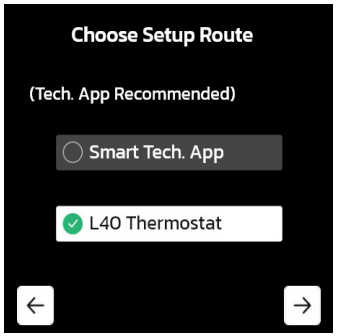


Figure 3. Choose Setup Route

2. Select **L40 Thermostat**; touch →.

   The *Dealer Information* screen displays.

NOTE: *Users can choose to bypass steps 3 and 4 by selecting* **Skip**.

3. Select **Dealer ID** and touch →.
   - **a.** Enter your dealer's alphanumeric identifier.
   - **b.** Touch ← to return to the *Dealer Information* screen.
4. Select **Phone Number** and touch →.
   - **a.** Enter your dealer's phone number.
   - **b.** Touch ← to return to the *Dealer Information* screen.
5. Touch →.

   The *Country/Region* screen displays.
6. Make a selection and touch →.

   The *Time Zone* screen displays.
7. Select the time zone: *Atlantic, Eastern, Central, Mountain, Pacific, Alaska, Hawaii, Samoa, Chamorro*
8. Touch →.

   The *Daylight Savings* screen displays.
9. Select whether to **enable** or **disable** the feature; touch →.

   The *Date* screen displays.
10. Select the current date; touch →.

    The *Time* screen displays.
11. Enter the current time; touch →.

    The *Temperature Unit* screen displays.
12. Select **Fahrenheit °F** or **Celsius °C**; touch →.

    The *Indoor Unit* screen displays.
13. Select your unit from the list; touch →.

    The *Outdoor Unit* screen displays.
14. Select your unit from the list; touch →.
15. Touch (-)/(+) to adjust the kBTU for the outdoor unit; touch →.

    The *Filter Reminder* screen displays.
16. Choose how often to replace the system's filter; touch →.
17. Choose how often to be reminded to replace the system's ultraviolet bulb: *3 months, 6 months, 12 months, Disabled*
18. Touch →.

    The Maintenance Reminder screen displays.
19. Select how often to receive a maintenance reminder: *3 months, 6 months, 12 months, Disabled.*
20. Touch →.

The *Congratulations* screen displays. This indicates the Lennox L40 Smart Thermostat has been successfully set up.

End User License Agreement

1. From the *Welcome* screen, touch →.

   The *Thermostat Language* screen displays.
2. Select a language and touch →.

   The *End User License Agreement* screen displays a QR Code.
3. Scan the QR code to review Lennox' EULA.
4. Touch →.

   The *Accept Lennox EULA* screen displays.
5. Select *I agree to the EULA*; touch →.

   The *Thermostat Connectivity* screen displays.
6. Touch → to advance to the *Lennox Account* screen.
7. Indicate whether a Lennox account exists; touch →.
8. Follow the on-screen instructions to pair the Lennox L40 Smart Thermostat to Lennox® Smart Tech.

Wi-Fi Setup

Wi-Fi Considerations

- This thermostat cannot connect to a home wireless router that uses more than 32 characters in the wireless access point name (visible or hidden).
- This thermostat will support up to a 63 character Wi-Fi password. Passwords cannot contain blank spaces or % symbol.
- L40 only supports 2.4Ghz; 5Ghz is not supported.
- If the home Wi-Fi connection is unsecured, then Wi-Fi security MUST be enabled. Consult router documentation on how to enable Wi-Fi security.
- This thermostat supports the following Wi-Fi security protocols: WPA, WPA2, and WPA3.
- Never use a home guest account.
- Always use a secure connection physically located in the home where the thermostat is located.
- Communication will not occur among the S30, L40, and S40 thermostats even if all thermostats are on the same network.

Wi-Fi Setup Process

After Lennox® Smart Tech and the Lennox L40 Smart Thermostat are paired, a Wi-Fi connection must be established.

1. Touch → in the Lennox® Home application.

   The *Select a Wi-Fi Network* screen displays.
2. Find the home's Wi-Fi network; enter the sign-on information to connect to the network.
3. Touch →.

   The *Adding your Smart Thermostat to your Account* screen displays (on the app) as the connection is established.

   The *Connected to Wi-F*i screen displays on the thermostat.
4. Touch *Finish* on the thermostat.

NOTE: *To confirm a successful Wi-Fi connection, from the thermostat go to Menu > Wi-Fi. Connected should display.*

Home Wi-Fi Access Point is Hidden

1. Select *Other...* from the S*elect a Wi-Fi Network* screen.
2. Touch →.
3. Scroll down and select *other*.

   The *Other Network* screen displays.
4. Enter the name of the hidden network.

NOTE: *The thermostat can connect to a home wireless router that uses up to 32 characters in the access point name (visible or hidden). DO NOT connect to a guest access point.*

5. Select Security. Options are: none, WPA, WPA2 and WPA3. If your home Wi-Fi connection is unsecured, then Wi-Fi security must be enabled using WPA, WPA2 or WPA3 via the router before proceeding. Consult your router documentation on how to enable Wi-Fi security.
6. Enter the password in the *Password* field; touch →.

NOTE: *If you wish to see the characters you are typing, check show password. The thermostat will support up to a 63 character password. Passwords cannot contain blank spaces or % symbol.*

The *Adding your Smart Thermostat to your Account* screen displays as the Wi-Fi connection is established.

Whether connecting to a visible or hidden network, if successful, a check mark will appear beside the Thermostat, Router, Internet, and Lennox Cloud icons within the app. Confirmation of a successful connection will also display on the thermostat. Touch *Finish* on the thermostat.

Wi-Fi Terminology

The following terminology is used in this troubleshooting section:

- Received Signal Strength Indication (RSSI). This indicates the signal strength of the Wi-Fi router being received by thermostat. So the higher the RSSI number (or less negative in some devices), the stronger the signal.
- Wireless networks supported by this thermostat are:

Table 5. Supported Wi-Fi Standards

Standard	Description
802.11b	Released in September 1999, it's most likely that the first home router was 802.11b, which operates in the 2.4GHz frequency and provides a data rate up to 11 Mbps.
802.11g	Approved in June 2003, 802.11g was the successor to 802.11b, able to achieve up to 54Mbps rates in the 2.4GHz band, matching 802.11a speed but within the lower frequency range.
802.11n (Wi-Fi 4)	Approved for usage in frequency - 2.4L

- Internet Protocol Address (IP address). This is an address assigned by your home router for each network device (e.g., computer, printer, thermostat).

Electromagnetic Interference Causing Poor Connectivity

Locate the thermostat and router away from other devices that could possibility interfere with wireless communications. Some examples of other devices that could interfere are:

- Microwave ovens
- Wireless cameras
- Portable phones and bases
- Baby monitors
- Wireless speakers
- Bluetooth devices
- Garage door openers
- Neighbor's wireless devices

To eliminate a possible source of interference, temporally disable any devices and see if Wi-Fi performance has improved.

Received Signal Strength Indication (RSSI)

The ideal signal strength range for the thermostat is -1 to -69 RSSI. The signal strength can be viewed from the thermostat interface.

1. Press NETWORK SETTINGS; this screen shows a graphical view of buttons representing OPEN and SECURE wireless networks, along with button for adding a network.
2. Select the access point that has already been established and connected.
3. When selecting the right arrow (>), a screen will appear which will display an option to forget the network. Additional information displayed on the screen is IP address, subnet mask, router IP, DNS, MAC Address, Speed, wireless type, BISSID and RSSI.

NOTE: *If the RSSI signal strength is anywhere between -1 to -69, then the signal strength is sufficient. If outside this range, then either relocate the router closer to the thermostat, add a repeater, or move the thermostat. Adjusting antenna on router or extender/repeater may resolve the issue.*

Dealer Service Center

This menu provides access for the installer or service technician to perform various functions such as advanced equipment configurations, notifications, tests, installation reports and general information about the system.

To access the service center screen, from the home screen, go to *Menu > Advanced Settings > View Support Service Control Center.*

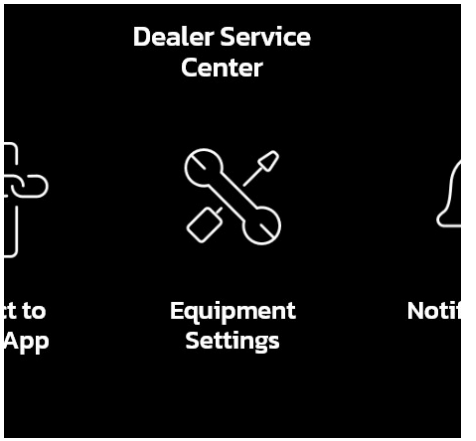


Figure 4. Dealer Service Center

Equipment Settings

Selections listed in this section are dependent on system hardware configuration. Not all options listed in this section will be available.

NOTE: *When changing the default settings for any parameter, there is a possibility that it will affect the settings for another parameter. If this happens, a pop-up message will be displayed listing the other affected parameters and their new automatically set values.*

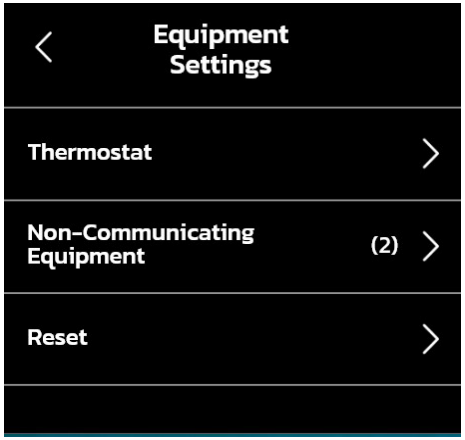


Figure 5. Equipment Settings

Thermostat

Table 6. Parameter Description

Parameter *(In alphabetical order)*	**Description**
About	This screen provides information concerning language supported, equipment type name, control software revision, model, control model number, control serial number, control hardware revision, protocol revision number, device product level, 24VAC average power consumption, 24VAC peak power consumption, compatible devices list, application code memory size and micro-controller part number.
Auto Changeover - Temp Deadband	Prevents the heating and cooling from being set closer together than 3ºF (1.67°C) or 9ºF (5.0°C) (Dead- band). Range is 3 to 9°F (1.67 to 5.0°C). Default is 3°F (1.67°C). Adjustments are in increments of 1°F (0.56°C).

Table 6. Parameter Description

Parameter *(In alphabetical order)*	**Description**
Balance Point Control	Access and set up Balance Point Control via Internet Weather. If system is set up as dual fuel or heat pump with electric heat and a outdoor temperature sensor connected to thermostat, the low and high balance point settings will appear. The balance points feature requires that a sensed outdoor temperature is provided to the thermostat. The outdoor ambient temperature can be read from either a communicating heat pump. All communicating heat pumps have a factory-installed outdoor temperature sensor. Options are enabled or disabled. Default is disabled. When enabled, both low and high balance points can be set.
Equipment Name	A unique name can be assigned to this component. Name can be up to 29 characters. Name can consist of letters, numbers, special characters and spaces. Default name is subnet controller.
Group ID	Multiple thermostats in a home can be assigned to a group (up to nine groups with up to five thermostats in each group). All thermostats in a group can communicate with other thermostats in the same group over the home Wi-Fi network. If a thermostat is set to Group ID 0, there will be no connectivity with another thermostat. Default Group ID is 1. Valid range is 0 to 9. (Recommend no more than 5 thermostats per group. Doing so will eliminate possible Wi-Fi bandwidth issues.)
Heat Alert Temperature	This will notify the homeowner when the indoor temperature reaches the setting defined for this parameter. Range is 80°F to 100°F (26.67 to 37.78°C) with a factory default of 90°F (32.22°C). Increments adjusted by 1.0°F (0.56°C).
Heat Cool Stages Locked In	Heat Cool (H/C) Stages Lock in default is disabled (heat/cool stages are turned off separately). If changed to Enabled, heat/cool stages are turned off together. For non-variable capacity systems only.
High Balance Point	The default is 50°F. This feature is only supported by weather information provided by an internet connection. If the outside temperature is above the High Balance point, then the auxiliary heat stage is disallowed. This prevents the more expensive auxiliary heat stage from operating, and forces the more efficient heat pump to satisfy the demand. High Balance Point can be disable in this screen. When this is enable, the high balance point range is from (the low balance point + 2) up to 75°F.
Low Balance Point	Setting used to prevent heat pump from heating the structure. Only Auxiliary Heat is used below the Low Balance Point. Range is -20 to 72 F (-28.89 to 22.22 C). Default is 25 F (-3.89 C). Adjustments are in increments of 1 F (0.56 C).
Max Heat Setpoint	The highest temperature setting that the heat set point can be set on the thermostat. Default is 90.0F (32.33°C). Range is 60.0 to 90.0°F (15.56 to 32.22°C). Adjustable in increments of 1°F (0.56°C).

Table 6. Parameter Description

Parameter *(In alphabetical order)*	**Description**
Min Cool Setpoint	This setting will limit the lowest cooling temperature setting on the thermostat. Range is Range is 60.0 to 90.0°F (15.56 to 32.22°C). Default is 60°F (15.56°C). Adjustments are in increments of 1°F (0.56°C).
O/B Mode	Options are: • O (Cooling) • B (Heating) Default setting is O (Cooling)
Reset	Options are: • Restart Thermostat (erases thermostat settings and restarts installer setup). • Re-Configure System • Factory Reset (resets thermostat to factory settings)
Screen Saver	Options are off, power save, and dim. Default is power save.
Smart Away	This setting when enabled controls the temperature in the home when no one is home. For this to function, the Lennox Home app needs to be installed on a mobile device.
Smooth Setback Recovery (SSR)	SSR is an algorithm designed to smoothly" reach a occupied program schedule setpoint. The algorithm looks 2 hours ahead for the occupied program schedule period's setpoint. If the occupied setpoint requires the system to turn on (present temperature below the heat setpoint or above the cool setpoint), then SSR will calculate a new setpoint. Once initiated, SSR monitors the change in room temperature and calculates a new setpoint every 30 seconds. Then SSR provides this new setpoint for the heating and cooling algorithms; the new setpoint will be displayed on the User Interface. SSR Rules: • SSR is enabled when both Smooth Setback Recovery" is set to enabled (default) and the program schedule is turned on. • SSR does NOT turn off stage delay timers. • SSR will NOT change the dead band between heating and cooling modes. • SSR will not overshoot the target set point. • SSR will reset if the user updates the program schedule during the active SSR period. Smooth Setback Recovery - default is enabled. • SSR aims to bring the sensor temperature (room temperature) to the value of the next active set point at the exact time the next active set point is associated with. This means that conditioning to reach the next active set point starts before the currently active set point period expires.

Table 6. Parameter Description

Parameter *(In alphabetical order)*	**Description**
Stage Delay Timers (2 through 6)	***NOTE:*** *Applicable to heat pumps in electric configurations for Balance Point control.* Second through Sixth Stage Delay timers (where applicable) can be "enabled" or "disabled." The duration is fixed. If the first stage fails to advance the ambient temperature toward the set point by 1.0°F (0.56°C) in the programmed delay time, then the second stage is activated. ***NOTE:*** *The Second Stage Delay Timer (when Staged Delay Timers is Enabled) is used for both HEATING and COOLING. However, if the system has a variable capacity furnace, Second Stage Delay Timer will only be used for COOLING (not for heating, as the variable capacity algorithm ignores delay timers).*
Stage Differentials (First)	First Stage Differential - Stage 1 differential is used in all thermostats. The default is 1.0°F but can be programmed between 0.5° and 3.0°F in 0.5°F increments.
Stage Differentials (2 through 6)	Number of stages in thermostat is dependent on installed equipment. ***NOTE:*** *Applicable to heat pumps in electric configurations when the outdoor temperature is between the high and low balance point.* ***NOTE:*** *Lennox variable capacity systems will stage electric heat but not on differentials. It will use the thermostat PI logic to stage the electric heat. If the system has a variable capacity furnace or zoning all stage differentials will be ignored.*
Temp Reading Calibration	Range is -5.0 to 5.0°F (-2.78 to -2.78°C). Default is 0.0°F (-0.0°C). If it is determine that the actual temperature being detected at the thermostat is off based on independent readings using other ambient temperature reading devices, the display can be adjusted using this setting.
Thermostat Name	Rename the thermostat.
Wide Setpoint	By default your thermostat operates within a range of 60-90°F. Enabling this options changes the range to 44-99°F.

Notifications

Any active alert conditions will be listed in this section. Reminders will also be displayed on this screen as well. A list of already cleared notifications is also available.

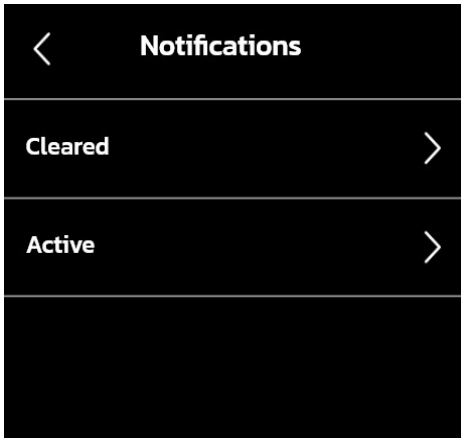


Figure 6. Notifications

Table 7. Parameter Description

Parameter	Description
Cleared	Lists cleared notices
Active	Lists active notices

Installation Report

This section lists installer and customer information. In addition, the installation report indicates the installation date along with the current date, time, outdoor temperatures, and indoor temperatures. The communicating equipment automatically found will also be listed in this section. Information listed for equipment is equipment name, model number, serial number and firmware version.

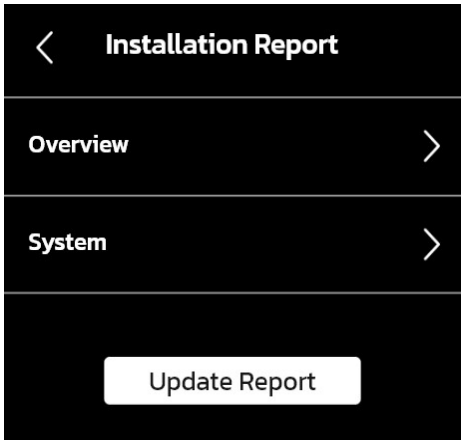


Figure 7. Installation Report

Table 8. Parameter Description

Parameter	Description
Overview	Lists installer, customer, and installation information. Users can also request an updated report by touching the *Update Report* button.
System	Lists system information

Information

Users can enter or add the dealer ID or phone number. Once the system is connected to the Internet, the remaining information is automatically populated. Not all information for this screen will be viewable. Touch and hold and then drag up to access the remaining information on the screen.

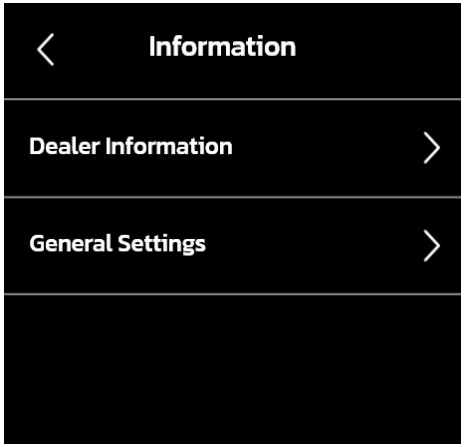


Figure 8. Information

Table 9. Parameter Description

Parameter	Description
Dealer Information	Lists dealer information such as the Dealer ID, Phone Number, Name, Email, and Address. Edits must completed via Lennox® Smart Tech.
General Settings	Lists general information such the time, date, time zone, daylight savings, and temperature unit.

Connect to Lennox® Smart Tech

This feature allows the service technician to connect Lennox® Smart Tech for servicing purposes. Follow the on-screen instructions to pair the service app to the thermostat. The provided Quick Start Guide has a QR code that can be scanned to download Lennox® Smart Tech to your mobile device. It can also be found on “Download Lennox® Smart Applications” on page 3.

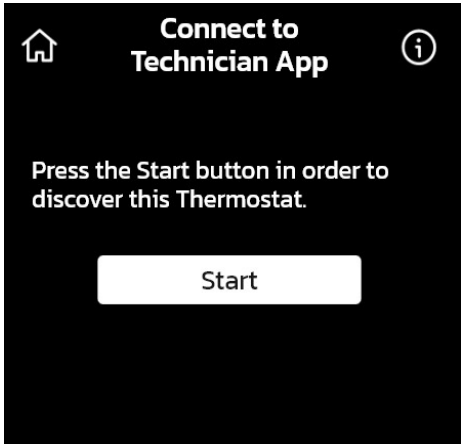


Figure 9. Connect to Technician App

Service and Support - Service Access and Remote In

IMPORTANT

Protect homeowner investment and peace of mind with active monitoring of system operations through the Lennox® Home thermostat. This feature is free of charge and provides basic maintenance reminders, alerts homeowner of potential issues, and can even allow the homeowner to remotely share diagnostics with the Lennox dealer to troubleshoot and fix problems. This proactive care helps eliminate downtime and avoid unnecessary service visits and repair costs, ensuring nothing short of perfect air.

Please share this information with homeowner as you ask them to accept the Advanced Diagnostics & Remote sharing permissions.

With the homeowner's permission, use the following procedure to enable remote access and diagnostics.

From the thermostat home screen, go to *Menu > Lennox Dealer Support Access > Local Lennox Dealer Info* and verify that all fields are complete. Select *Dealer Support Access* and press the slide buttons to *ON* to enable Remote Sharing, Alerts and Notifications, and Advanced Diagnostics. These features are also accessible via the Setup & Customization process.

- ***Remote Sharing*** - Enables the local Lennox Dealer to view historical data (system setpoints, cooling and heating run times, etc.) to better diagnose issues, should they occur.
- ***Alerts and Notifications*** - Notifies the local Lennox Dealer whenever the system requires service or maintenance.
- ***Advanced Diagnostics*** - Remotely share diagnostics with the local Lennox Dealer to troubleshoot and fix problems. This proactive care eliminates downtime and avoid unnecessary service visits and repair costs.

Notifications (Service and Alert Codes)

These screens provide information on active notifications and previously cleared notifications. When selecting either a cleared or active notification a brief description and alert code will be displayed. Notifications are categorized by system, indoor unit (air handler or furnace), outdoor unit (air conditioner or heat pump), zoning control (if installed) and thermostat.

Alert Code Priority Types and Notification Options

To expand a specification notification to access a more detail description of the alert code, press the down arrow to expand the description.

Table 10. Alert Code Priority Condition Visibility

Alert Priority	Alert Priority Description n	Notifications Displayed or Email Notifications Sent						
		Displayed for Homeowner on Thermostat	Displayed for Dealer on Thermostat	Lennox® Home Application	Lennox® Smart Tech**	LennoxPros Service Dashboard**	Homeowner Emailed*	Dealer Emailed
Service Urgent	Your system is in a No Heat/ No Cool or not operating. Dealer service call is needed to get the system running.	√	√	√	√	√	√	√
Service Soon / Service Urgent	This alert priority indicates that the system will likely recover on its own and no interaction is necessary. Typically, either after a specific timer period or a specific number of instances, some **Service Soon** alerts will escalate to **Service Urgent**.	X	√	X	√	√	X	X
Service Soon	System is not reaching set point or is partially operating. A Dealer will need to service it with 24-48 hours.	X	√	X	√	√	X	X
Maintenance	**Maintenance** alerts are those intervals you put in the thermostat as reminders to change filters, replace UV lamps, tune up systems.	√	X	√	X	√	X	X
Information Only-Dealer	This alert priority is for information and is directed to the dealer.	X	√	X	√	X	X	X

* For homeowner to receive email notifications, email updates has to be enabled. From the home screen, go to **menu** > **user account** > **Email updates** and set to **ON**.

** For dealers to receive service alerts and service alert emails the feature needs to be enabled by the homeowner. From the home screen, go to **menu** > **user account** > **Dealer Email updates** and set to **ON**.

Service Notification Alert Codes

Table 1. Alert Codes and Troubleshooting

Alert Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
29	Service Urgent	Over Temperature Protection	The thermostat is reading an indoor temperature that is higher than 90ºF (factory default). The thermostat will not allow any heating operation to begin until it senses an indoor temperature lower than 90ºF. Indoor temperature rose above 90ºF during a heating or cooling demand. • Heating operation is not allowed. • Check to ensure that heating equipment is not stuck ON (reversing valve, etc.) • Check the accuracy of the thermostat temperature sensor. • Select cooling system mode to cool the indoor space below 90ºF.	Automatically clears when the system detects that the issue no longer exists.
30	Service Soon /Service Urgent	Low Temperature Protection	The thermostat will not allow any cooling operation to begin until it senses a temperature higher than 40ºF. • Cooling operation is not allowed. • Check to ensure that cooling equipment is not stuck ON. • Check accuracy of the thermostat temperature sensor. • Select heating system mode to heat the indoor space to above 40ºF.	Automatically clears when the system detects that the issue no longer exists.
610	Service Urgent	Low Room Temperature Detected	This alert will automatically notified the user that a low room temperature condition exist. A notification is displayed on the HD display and email notification sent to homeowner and dealer. The freeze alert protection parameter range is 30°F to 50°F (-1.11 to 10.0°C). Default is 40°F (4.44°C). ***NOTE:*** *Notification is dependent on the thermostat having a active Wi-Fi connection and the user account has been setup and includes a valid email address.*	Automatically clears when condition is resolved.
611	Service Urgent	High Room Temperature Detected	This alert will automatically notified the user that a high room temperature condition exist. A notification is displayed on the HD display and email notification sent to homeowner and dealer. The heat alert protection parameter range is 80°F to 100°F (26.67 to 37.78°C). Default is 90°F (32.22°C). ***NOTE:*** *Notification is dependent on the thermostat having a active Wi-Fi connection and the user account has been setup and includes a valid email address.*	Automatically clears when condition is resolved.

Table 1. Alert Codes and Troubleshooting

Alert Code	Priority Condition	Actual Displayed Alert Text Under dealer control center > Notifications	Component or System Operational State and Troubleshooting Tip	How to clear alert code
700	Service Urgent	Thermostat Temp Sensor Problem	The HD display's internal temperature sensor is not operating correctly. To resolve this issue, try the following: • Remove HD display from mag-mount and reattaching. • Seal hole in wall behind mag-mount to minimize exposure to unconditioned air from inside the wall. • Run "**reset all**" under dealer control center. • If issue persist, then replace the HD display.	Automatically clears when the system detects that the issue no longer exists.
3000	Maintenance	Replace Filter 1	Not Applicable	Reset filter reminder
3004	Maintenance	Maintenance Reminder	Not Applicable	Make service appointment with dealer and reset reminder

Installation Checklist

Table 11. Installation Checklist

Item	Description	Yes	No
1	Is the thermostat properly mounted to either a wall stud or wall? (Do not mount on exterior wall or near any ventilation outputs, doorways or location that could be directly exposed to sunlight)		
2	Are all terminals wiring properly connected and tight?		
4	Have all the Thermostat Features been explained to the Home Owner?		
5	Has User manual been given to Home Owner?		
7	Is the Wi-Fi connected?		
9	Has the homeowner downloaded the Lennox Home application from either Google Play or IOS App Store to their mobile devices?		
10	Is the Lennox Dealer account number or your main shop phone number been added to the dealer information screen? This will tie the homeowners system to your LennoxPROS account.		
11	If applicable, has the air handler's electric heat strips been commissioned? If not, commissioning of heat strips must be performed.		
12	Has a complete system test been run? If not, from the HD Display home screen go to **settings > advanced settings > view dealer control center >** and select **tests**.		

Technical Support and Mobile App for Installers/ Technicians Only

Technical Support for Installers/Technicians Only

Lennox Residential technical support can be reached at 1-800-453-6669. Hours for support are Monday through Friday (except holidays).

- Dealers: 6:30 am - 6:30 pm CST
- For non-dealers: 8:00 am - 5:00 pm CST

Tell us the issue so we can connect you to the right rep, offer relevant tips, reminders, and follow-up! Get targeted help with:

- Complaints
- Technical support
- Repairs
- Returns

Lennox® Smart Tech Application for Installers/Technicians Only

Lennox® Smart Tech enables HVAC technicians to set up, configure, and test a Lennox L40 system directly on their mobile device.

Once installed, technicians can pair their mobile device to the Lennox® Home thermostat and make adjustments from anywhere inside the home. Technicians are able to configure and/or run diagnostics from their smart device instead of being tethered to the thermostat.

With just a touch, technicians can:

- Setup and configure the system
- Adjust parameters
- Run system tests

This application is designed for Lennox HVAC technicians servicing Lennox® Home thermostat systems.

LennoxPros Mobile Application for Installers/Technicians Only

LennoxPROs.com and the LennoxPROs mobile application have all the information HVAC Professionals and businesses need in one place. From shopping for parts and supplies to using Lennox' FREE e-tools, your needs are covered.

LennoxPros Service Dashboard

The Service Dashboard displays Lennox® thermostat installations in one convenient location. The Service Dashboard is accessible via www.LennoxPros.com.

The thermostat is accessible via the Service Dashboard only if the dealership's main phone number or company name is added during thermostat commissioning and the homeowner has granted Monitoring and/or Advanced Diagnostic access.

Service Dashboard Search Screen

- Customers can be located using the following criteria: homeowner name, email, address, or serial number.
- Search results can be filtered by: thermostat type, alert type, access level or maintenance reminders.

Customer Search Results

Displays a list of customers with installed Lennox® thermostats and their locations:

- Name
- Address
- Phone
- Email
- Thermostat Type and Monitor Status

Map displays the following:

- Shows all customer's locations and any current alerts
- Color-coded pins on the map denote the following:
  - » Red - Service Urgent
  - » Yellow - Service Soon
  - » Green - No Alerts, normal operation
  - » Black - Not sharing system information

NOTE: *Click on a customer's pin to view information about their system.*

NOTE: *Selecting a customer from the list or map pin will display the following:*

- » Home System(s)
- » Owner Information
- » Remote In
- » Alerts & Reminders
- » Equipment & Reports

Home Systems

- Shows thermostat connection status
- Multiple home systems are displayed for each customer if there are more than one system

System History

This section provides a list of alerts over the past 12 months

Temporary Advanced Diagnostics Access (Remote In Button)

- Allows the dealer remote access to the customer's thermostat (if enabled)
- Remote In Thermostat Controls share the same appearance and function as the thermostat's touchscreen display. This feature allows dealers to adjust the customer's thermostat settings remotely.
- *Remote In* button is red if temporary remote access is granted by homeowner. The *Remote In* button is gray if the homeowner has not granted temporary remote access. If the homeowner has not granted, the *Send Request* button is available to the technician.
- *Send Request* button allows the technician to request remote access to the customer's thermostat. The availability of this button indicates the homeowner prefers to grant access to their thermostat on a temporary basis only.

To request temporary access to the customer's thermostat:

1. Select the *Send Request* button.

   A request is sent to the customer asking for remote access to their thermostat. Access is permissible for 24 hours.

2. Press the *Remote In* button to gain temporary access to the customer's thermostat after access is granted.

NOTE: *After the 24-hour window expires, access to the homeowner's system is automatically terminated. Technicians can press Cancel Session to terminate the access prior to the 24-hour deadline.*

3. End the temporary access by pressing *Cancel Session* after diagnostics and troubleshooting are complete

   This ends remote access to the homeowner's thermostat.

Alerts & Reminders: [System Name]

Tabs for Alerts - Service Urgent, Service Soon, Cleared and Reminders

NOTE: *Clicking on a card with an alert expands to display the Remote In control (if enabled by the homeowner) and Troubleshoot (access to the Lennox Troubleshooting Center, which includes error code lookups and any available documentation).*

Equipment & Reports

- Equipment Tab
  - » A detailed list of all installed equipment for a particular system
  - » Menus are available for each Equipment Type for Technical Documents, Warranty Lookup, and Repair Parts
- Reports Tab
  - » View Performance Reports, Installation Reports, and Installation Update Reports
  - » Generate Monthly Performance Reports
  - » Generate Installation Update reports
  - » View Performance Reports link displays a graphical view of the system performance
  - » Generating any report will save it as a PDF file to send to the customer or for record keeping.

NOTE: *For additional information please visit the* Service Tools Help Center and click on Service Dashboard.

Equipment Configuration Profile (ECP)

The Equipment Configuration Profile (ECP) is designed to assist technicians achieve higher quality and faster installations. This feature also enables dealers to create unique equipment profiles specific to products sold at their dealership. From the comfort of a desktop computer or mobile phone, dealers can customize profiles (via the Service Dashboard on LennoxPros) that will factor in the local weather conditions for all communicating and non-communicating, one-stage, two-stage and variable speed air conditioners, heat pumps, furnaces, and air handlers.

Create a New Equipment Profile

1. Select *Equipment Profile* from the Service Dashboard menu bar.

   The Equipment Profiles screen displays two tabs: *Custom Profiles* and *Default Profiles*.
2. Select the *Custom Profiles* tab (to build a completely new profile) or the *Default Properties* tab (to build a profile using a Lennox default profile) and click *Create New Profile*.

   The *Select Equipment* screen displays.
3. Locate a default profile from which to build a customized profile.

NOTE: *There is a default profile for each unit type and dealers are able to make adjustments to the default settings, if necessary.*

4. Click *Select Equipment*.

   The *Set Values* screen displays.
5. Adjust the set values (if necessary) and click *Save*.

   The *Profile Details* screen displays.
6. Complete the fields on the *Profile Details* screen.

NOTE: *Click Back to return to the Set Values screen if changes are necessary. Entries in the Profile Details fields will be lost.*

7. Click *Save*.

   The *Confirm Profile Creation* screen displays.
8. Verify the entries are correct and click *Confirm*.

   The *Success* dialog displays. This dialog confirms the new Equipment Profile has been saved and technicians can import the profile during the configuration process.
9. Click *Return to Dashboard* to return to the *Custom Profiles* screen or *Create New Profile* to build another custom Equipment Profile.

NOTE: *Dealers can delete a custom Equipment Profile by clicking the Delete Profile link associated with the profile to be deleted.*

Deleting a Custom Profile

If a custom profile is no longer valid or there is simply no need to maintain a custom profile, dealers can choose to delete it.

NOTE: *Default profiles can not be deleted.*

1. Click *Equipment Settings* from the Service Dashboard menu.
2. Select the *Custom Profiles* tab.
3. Locate the profile to delete.
4. Click *Delete Profile*.

   A *Delete Profile* dialog displays confirming the command to delete the profile.
5. Click *Yes, Delete*.

   The profile is removed from the Custom Profiles list.

Equipment Profiles

Equipment profiles automatically download to Lennox® Smart Tech after the technician logs in. The technician can then create a new list (or job) by using their mobile device to scan the equipment's serial number. Alternatively, technicians can manually enter the serial number into the app. After the system identifies the serial number, equipment profiles (that match the equipment type) display.

Technicians can choose the desired equipment profile, which automatically configures the equipment to the settings created by the dealer. If the equipment profile has not been set up, a default factory setting profile is available.

NOTE: *This feature is currently only available for installations with the Lennox® Home Thermostats L40 and S40, but can support both communicating and non-communicating Air Conditioners, Furnaces, and Heat Pumps. After installation and configuration are complete, the technician can run an installation report for the homeowner to confirm a successful installation.*

After the technician logs in, the *Welcome to Lennox® Smart Tech* screen displays. There are three options from which to choose:

- **Capture Equipment** - enables technicians to scan or manually enter equipment bar code.
- **Connect to a Thermostat** - enables the technician to connect via Lennox® Smart Tech to the homeowner's thermostat.
- **View Captured Equipment** - allows the technician to view equipment lists previously captured by the technician.

Unregistering the Lennox L40 Smart Thermostat

The Lennox L40 Smart Thermostat is linked to a home profile in the homeowner's account. Any action that impacts the home profile will impact all thermostats associated with that home profile.

The following actions will unregister the Lennox® Home thermostat.

Unregister System

(Lennox® Home Application Only)

Navigate to: Menu > Settings > Unregister System

Table 12. Unregister Thermostat

Parameter	Description
Account	Not affected by unregistering the thermostat
Home	Home profile is not affected by unregistering the thermostat
Target Thermostat	Unregisters the thermostat. Zoning, Air Flow, and Ventilation settings are not affected.
Additional Thermostats	Additional thermostats are not affected. Zoning, Air Flow, and Ventilation settings are not affected.

Remove Home

(Lennox® Home Application Only)

Navigate to: Menu > User Account > Home Info > Remove Home

Table 13. Remove Home

Parameter	Description
Account	Not affected by removing home
Home	Home profile is deleted
Target Thermostat	Unregisters the thermostat. Zoning, Air Flow, and Ventilation settings are not affected.
Additional Thermostats	Unregisters additional thermostats in the home. Zoning, Air Flow, and Ventilation settings are not affected.

Delete Account

(Lennox® Home Application Only)

Navigate to: Menu > User Account > Account > Delete Account

Table 14. Delete Account

Parameter	Description
Account	Account is deleted
Home	Home profile is deleted
Target Thermostat	Unregisters the thermostat. Zoning, Air Flow, and Ventilation settings are not affected.
Additional Thermostats	Unregisters additional thermostats associated with account. Zoning, Air Flow, and Ventilation settings are not affected.

Restart Thermostat

(Lennox® Home)

Navigate to: Menu > Advanced Settings > Restart

Table 15. Restart Thermostat

Parameter	Description
Account	Not affected by restart
Home	Home profile is not affected
Target Thermostat	Zoning, Air Flow, and Ventilation settings are not affected.
Additional Thermostats	Zoning, Air Flow, and Ventilation settings are not affected.

Re-Configure System

(Lennox® Home)

Navigate to: Menu > Advanced Settings > View Support Service Control Center > OK > Equipment Settings > Reset > Re-Configure System

Table 16. Re-Configure System

Parameter	Description
Account	Not affected by restart
Home	Home profile is not affected
Target Thermostat	Zoning, Air Flow, and Ventilation settings may be affected.
Additional Thermostats	Zoning, Air Flow, and Ventilation settings may be affected.

Factory Reset

(Lennox® Home)

Navigate to: Menu > Advanced Settings > View Support Service Control Center > OK > Equipment Settings > Reset > Factory Reset

Table 17. Factory Reset

Parameter	Description
Account	Not affected by factory reset
Home	Home profile is not affected by factory reset
Target Thermostat	Unregisters the thermostat. Zoning, Air Flow, and Ventilation settings are reset.
Additional Thermostats	Additional thermostats are not affected. Zoning, Air Flow, and Ventilation settings are not affected.

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