LENNOX F1943L-3P VRF Wi-Fi Controller Instruction Manual

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Product Information

The VRF system is a heat recovery and heat pump indoor unit that can be controlled remotely through a Wi-Fi-enabled touch screen programmable local controller. The F1943L-3P (19B16) controller is designed for use with VRF systems and can be controlled via a mobile application. It is important to note that installation and service must be performed by a licensed professional HVAC installer or service agency to avoid property damage, personal injury, or loss of life. The controller should not be installed in areas where harmful gases containing sulfur or other damaging agents may exist or the controller may be damaged.

Product Usage Instructions

To ensure proper system performance and reliability, Lennox does not recommend operating the VRF system during any phase of construction. Construction debris, low temperatures, harmful vapors, and operation of the unit

with misplaced filters can damage the units. It is important to follow these guidelines to avoid voiding the warranty

Frequent changes to the operating mode may cause system malfunction. Allow at least one minute between mode changes to allow the system to stabilize. The user manual must be left with the owner for future reference.

Installation Instructions

VRF Wi-Fi Controller Installation

1. Before beginning installation, ensure that the power supply has been turned off.
2. Use a #2 Phillips screwdriver, slotted precision screwdriver, level, and 1/8 wall anchor tools for installation.
3. Avoid installing the local controller in high load or heat loss areas such as exterior walls or walls that are against unconditioned spaces, near entry doors and windows, or where direct sunlight may be present.
4. Do not operate the controller with wet hands.
5. Clean the controller using a clean, damp cloth. Do not spray cleanser on or around the controller.
6. Neutralize electrostatic charge by touching your hand and tools to metal prior to handling the control.
7. Read all of the information in the manual before using the controller.
8. All wiring must conform to local and national building and electrical codes and ordinances.
9. Do not install the controller on voltages higher than 12 VDC.

Connecting to a Single P3 Indoor Unit
Connect the controller to an indoor unit using Control Protocol 3 (P3) using 4-conductor wire to terminals +12V,-GND,HA,HB. Connect up to 16 indoor units, ground cable shielding at indoor unit, and all wiring is polarity sensitive. See Figure 1 for a visual representation.

Connecting to Multiple Indoor Units
Connect the controller to multiple indoor units, up to 16, using 4-conductor shielded cable to connect to the first indoor unit, then daisy chain control wiring to each indoor unit using the HA/HB terminals in the electrical control box of the indoor unit. Do not daisy chain 12V power cable. See Figure 2 for a visual representation.

General
The F1943L-3P (19B16) controller is a wired touch screen programmable local controller for VRF Heat Recovery and Heat Pump indoor units capable of Wi-Fi control via a mobile application. These instruc-tions are intended as a general guide and do not su-persede local codes in any way. Consult authorities having jurisdiction be fore installation.

Be sure that power supply has been turned off before beginning installation. This controller should be used only as described in this manual.

Shipping and Packing List

Package 1 of 1 contains;

1. Wired Controller
2. Back plate and Wire Terminals
3. Mounting screws and anchors
4. Machine screws for connecting controller to back plate

Tools Needed

- #2 Phillips screwdriver
- Slotted precision screwdriver Level
- 1/8” wall anchor tools

Controller Placement
Avoid installing local controller in high load or heat loss areas such as exterior walls or walls that are against unconditioned spaces, near entry doors and windows, or where direct sunlight may be present.

Installation

WARNING: Be sure that power supply has been turned off be-fore beginning installation.
Do not operate controller with wet hands.

CAUTION: Do not install controller in areas where harmful gases containing sulfur or other damaging agents may exist or the controller may be damaged. Clean controller using a clean, damp cloth. Do not spray cleanser on or around controller.

IMPORTANT: Electrostatic discharge can affect electronic components. Take precautions to neutralize electrostatic charge by touching your hand and tools to metal prior to handling the control.Read all of the information in this manual before us-ing this controller. All wiring must conform to local and national building and electrical codes and ordi-nances. This is a 12 VDC controller. Do not install on voltages higher than 12 VDC.

- This manual provides the installation instructions for this controller. Refer to the included wiring diagrams to connect the controller to the indoor unit.
- Do not expose to volatile organic compounds (V.O.C.) and/or alcohol that can cause sensor dam-age.
- Do not expose to construction dust, paint, and/or other contaminants that can deposit on the circuit board surface inside the unit.
- Physical damage can lead to broken cover glass as well as prevent the unit from functioning correctly. The controller uses low voltage. Keep a minimum distance of 12” (305 mm) between low voltage con-trol wire and high voltage power wires.

Power wiring between controller and first indoor unit:

Minimum 18 AWG stranded, shielded cable up to 164 feet (50 m).
Ensure there are no gaps between the controller back cover and the mounting surface.

- Fill any holes in the wall behind the controller to avoid false readings from infiltration.
- Ground the shielded control wiring.
- Do not use a megger to test insulation.

Communication wiring between indoor units:

- Minimum 18 AWG stranded, shielded cable.

Connecting to a Single P3 Indoor Unit
Connect the controller to an indoor unit using Control Protocol 3, or P3, using 4-conductor wire to terminals +12V,-GND,HA,HB. See Figure 1.

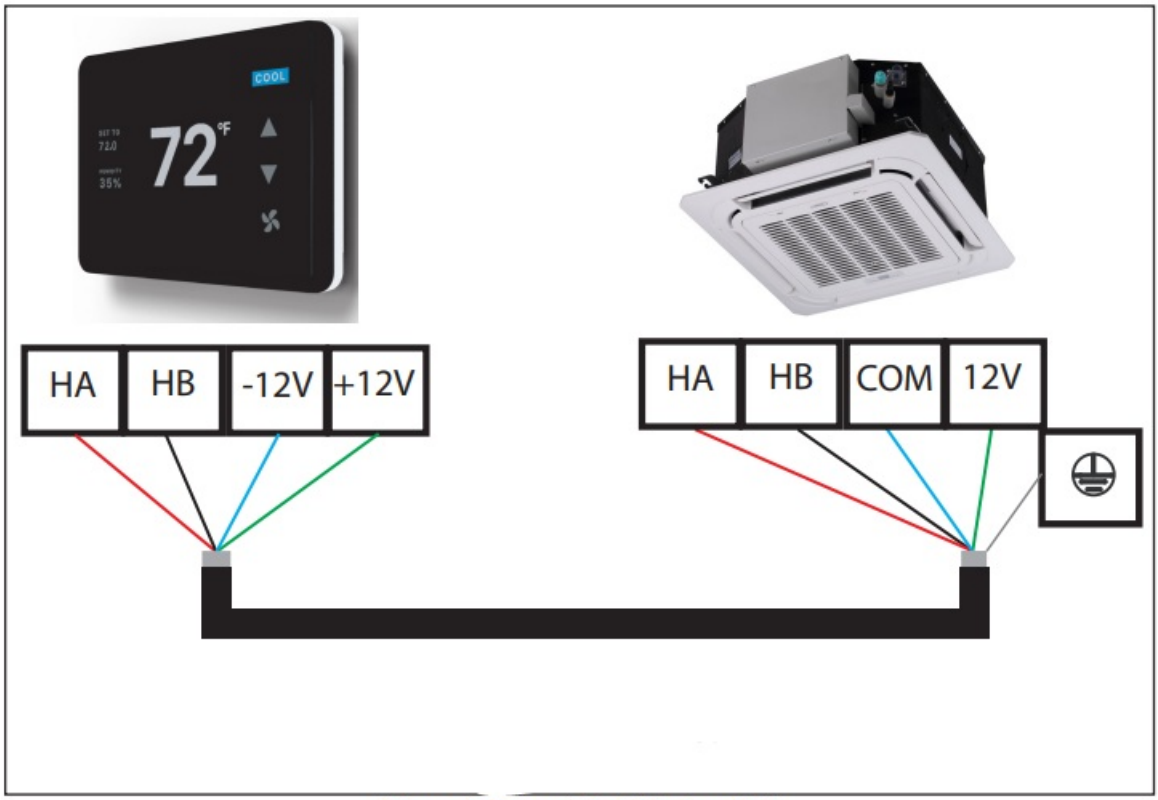

Figure 1. Connect to P3 Indoor Unit

NOTE

1. Connect up to 16 indoor units
2. Ground cable shielding at indoor unit
3. All wiring is polarity sensitive

Connecting to Multiple Indoor Units

Connect the controller to multiple indoor units, up to 16. Use 4-conductor shielded cable to connect to the first indoor unit, then daisy chain control wiring to each indoor unit using the HA/HB terminals in the electrical con-trol box of the indoor unit. Do not daisy chain 12V power cable. See Figure 2.

NOTES

1. Connect “+12V” on the controller to terminal “+12V” on the first indoor unit only. 12V connection provides power to controller; connection to multiple indoor units will damage controller and indoor unit boards.
2. Ground cable shielding at each indoor unit.
3. Use stranded, shielded, 18 GA cable.
4. Connect up to 16 indoor units.

CAUTION: Connect “12V” on the controller to terminal “12V” on the first indoor unit only. 12V connection provides power to controller; connection to multiple indoor units will damage controller and indoor unit boards.

Mount the Controller

1. Attach the back cover to the wall using screws.
2. Connect the controller to one indoor unit main control board using appropriate wiring method as determined.
3. Push the controller back toward the back plate until it “snaps” into place, use machine screws to secure cover

to back plate.

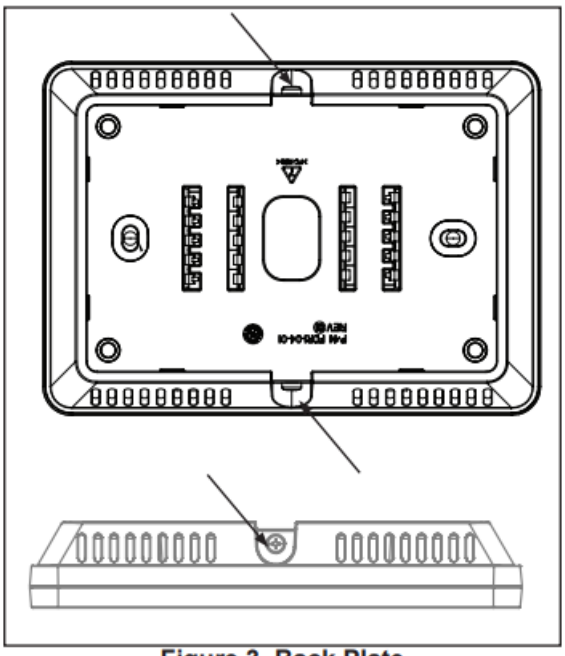

Figure 3. Back Plate

Operation

Main Menu

- To access the main menu, tap the mode (HEAT, COOL, or OFF) on the top right corner of the screen.
- The main menu allows for quick access to changing modes, fan operation, and other settings if enabled by the system operator.
- Depending on your HVAC system, some options may be disabled and not displayed.
- When the system is actively cooling or heating the space, an underline will appear below the HEAT/COOL indicator on the main screen. The line will disappear during the system is idle or when the set-point is satisfied.

Settings Menu

To access this menu, tap settings in the main menu. This menu allows for changing of the temperature unit, time format, and access to the schedule hold menu.

- **Factory Reset:** A reset switch is hidden behind the first grill on the top right (see image below). Use a non-metal tool to contact and press the reset switch.
- **Single Press:** A single press of the switch will reboot the device without changes to the stored information.
- **Long Press (Factory Reset):** Holding the switch down for more than five seconds will put the device in factory reset.

  A visual indication is shown on the screen.
- **Note:** Factory resets do not erase network information and the device will remain on the network until a leave operation is performed (via the network menu or over the air).

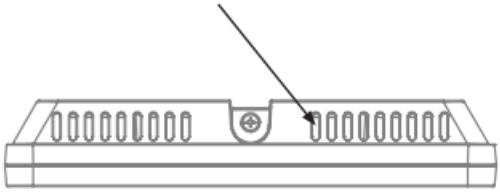

Figure 4. Factory Reset Button

Scan this QR code to download the Lennox VRF Wi-Fi Controller App
from the Apple App Store or the Google Play store. The app provides control of the VRF Wi-Fi Controller.

Technical Support

1-800-4LENNOX
(1-800-453-6669)
vrftechsupport@lennoxind.com
www.LennoxCommercial.com
Scan this QR code to download the Lennox VRF & Mini-Splits App from the Apple App Store or the Google Play store.
The app contains technical literature and troubleshooting resources.

Documents / Resources

	LENNOX F1943L-3P VRF Wi-Fi Controller [pdf] Instruction Manual F1943L-3P VRF Wi-Fi Controller, F1943L-3P, VRF Wi-Fi Controller, Wi-Fi Controller, Controller, VRF

References

- Commercial Air Conditioning & Heating Units | Lennox Commercial