

Lennox HVAC Zone Control Model LZP-4 Owner's Manual

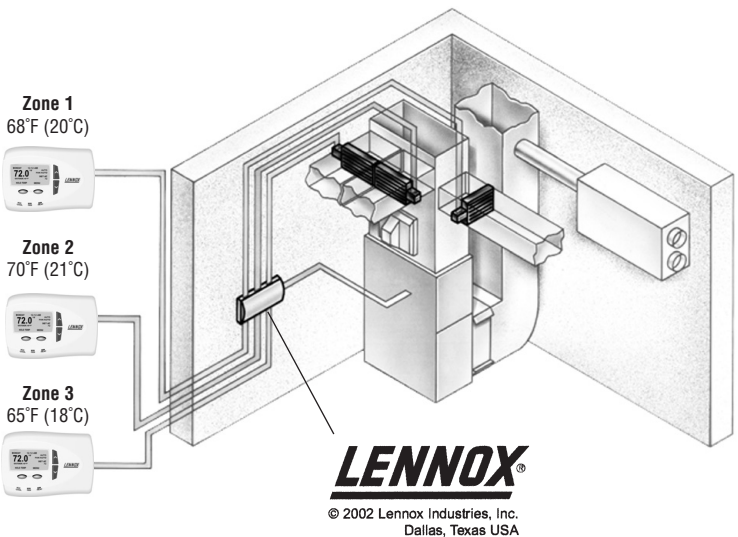


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Dallas, Texas USA

Overview

The Lennox LZP-4 Zone Control System has been designed to increase comfort in your home. It's able to do this because it solves the problem caused by various areas of the home gaining and losing heat at different rates. Unlike conventional heating and air conditioning systems, the LZP-4 Zone Control knows, at any given time, which areas (zones) of your home require conditioned air. With this information, the Zone Control automatically directs the conditioned air to the zones that require it. Because of this, you will be able to increase the comfort level throughout the home.

The components that make up the Zone Control System are: thermostats, a Control Panel, air control dampers and heating and cooling equipment, as shown in the illustration below. The Control Panel is typically located on an inside wall near your heating and air conditioning equipment. The dampers are located inside your air ducts in such a way that each zone can be independently controlled. Thermostats, placed in each zone, are directly connected to the Control Panel.



The above illustration shows a system where three of the four zones are used.

Model LZP-4

The Model LZP-4 is designed to work with your heating and cooling system, whether it is a furnace and air conditioner, heat pump with electric backup heat, or a heat pump with a gas furnace. This model can handle three stages of heat (two stage compressor, one auxiliary heat) and two stages of cool. The LZP-4 will control 2, 3 or 4 zones.

Basic Operation

Your Zone Control System will allow you to increase your comfort by directing conditioned air to separate areas (zones) based on each zone's thermostat setting. To operate this system, just set or program each zone's thermostat to your desired comfort set points. When there is a heating or cooling call from any zone, the appropriate heating or cooling equipment will be turned on. The dampers to zones not requiring heating or cooling will close and the conditioned air will be directed to the calling zone (s) until the thermostat is satisfied.

There are two possible control modes that your Lennox Zone Control System can be programmed for. Your Lennox dealer programs the control panel at the time of installation to either "any zone sets mode" or "zone 1 sets mode". When configured for "any zone sets mode" operation each thermostat can control the equipment's changeover from heating to cooling or vice versa. When configured for, "zone 1 sets mode", only the zone 1 thermostat can effect the equipment's changeover. For instance, if Zone 1 is set to the cooling mode, only calls for cooling will be accepted, and if Zone 1 is set to the heating mode, only calls for heat will be accepted. It is important to know which control strategy has been designed into your system, since it will affect its operation.

Ask you installer to circle which control mode the LZP-4 Zone control panel has been set for: Zone 1 sets the mode, Any zone sets the mode.

There is a 20 minute change over feature which provides a maximum call time of 20 minutes if opposing calls exist. The heating and cooling equipment will not operate at the same time when the panel is set to any zone sets the mode.

Your zone control system is designed to direct conditioned air only to the rooms served by that zone's thermostat. However, due to the open design of today's homes, it may not be possible to maintain drastic temperature differences between zones. Closing interior doors is a good way to reduce the air exchange between zones and increase the temperature difference between them.

The following sections describe how to make Heating, Cooling, and Emergency Heat calls.

Heating Operation

To start heating:

1. Set your thermostat to the Heat mode. Depending on the thermostat, this is accomplished by either manually moving a switch to the Heat position or digitally selecting Heat mode with a push button. Consult your thermostat Owner's Manual for details.
2. Adjust the thermostat set point to a temperature higher than the displayed room temperature so that a Heat call is initiated. Again, consult your thermostat Owner's Manual for details on how to do this properly.

An LED labeled 'Heating', on the zone panel enclosure will indicate if the board is making a call for heat. If the equipment does not come on right away it may be due to the minimum-off time delay. Four minutes must elapse after the last heating cycle before it can come on again. This built in feature ensures that the heating equipment does not cycle too frequently, shortening the life of the equipment.

Cooling Operation

1. Set your thermostat to the Cool mode. Depending on the thermostat, this is accomplished by either manually moving a switch to the Cool position or digitally selecting Cool mode with a push button. Consult your thermostat Owner's Manual for details.
2. Adjust the thermostat set point to a temperature lower than the displayed room temperature so that a Cool call is initiated. Again, consult your thermostat Owner's Manual for details on how to do this properly.

An LED Labeled 'Cooling', on the zone panel enclosure will indicate if the board is making a call for cooling. If your air conditioning does not come on right away it may be due to the minimum-off time delay. Four minutes must elapse after the last air conditioner cycle before it can come on again. This built-in feature ensures that the air conditioner does not cycle too frequently, which can reduce the life of your equipment.

Emergency Heat Operation

*(Heat Pump Equipment **only**)*

There are two options available for operation of Emergency Heat. The option used with your system is dependent upon the initial installation performed by your installer. Ask your installer to circle which option your LZP-4 Zone control panel has been set for.

Option 1- If heat pump thermostats were installed in all zones, they are equipped with an Emergency Heat setting that can initiate the emergency heat mode. This is accomplished by moving the thermostat mode selector switch or push button until the Emergency Heat mode is chosen. Then, by placing the thermostat's set point above the current temperature, Emergency Heat will energize until the thermostat is satisfied. If any other zone should call for heat during the Emergency Heat call, it too will be satisfied by the Emergency Heat source.

Option 2- If Heat/Cool (non heat pump) thermostats were installed in all zones, Emergency Heat can only be accessed by setting the Emergency Heat switch, located on the Zone Control Panel, to the ON position. Then, by placing any thermostat's set point above the current temperature while in the heat mode, Emergency Heat will energize until the thermostat is satisfied. The accompanying 'E-Heat' LED on the control panel enclosure signifies you are in Emergency Heat mode.

With this option the system will stay in the emergency heat mode until this switch is turned to off.

Note: Emergency Heat is generally much more expensive to operate than the Heat Pump. Use only when necessary. Your equipment may not include Emergency Heat.

Damper Operation

When the Lennox Zone LZP-4 Control Panel receives a call and turns on the appropriate equipment, it also automatically closes the dampers that serve the non-calling zones and opens those in the calling zones. When all calls are satisfied, the Control Panel initiates a purge cycle during which time the dampers maintain their last position. After this purge cycle, all dampers open.

An LED on the zone panel enclosure will indicate if the damper for a zone is closed. The LED's labeled Z1 through Z4 Damper, indicate a closed damper in Zone 1, Zone 2, Zone 3, and Zone 4 respectively.

Fan Operation

The Lennox Control Panel allows you to control fan operation from any zone. Dampers in zones not calling for fan will close. If continuous fan operation is desired in all zones, the fan must be turned on at the thermostat in each zone. An LED labeled “Fan On”, on the zone panel enclosure will indicate if the HVAC fan is on.

Turning the System Off

In order to shut off the system and prevent the Control Panel from turning on your equipment, you need to set ALL of your thermostats to the OFF mode. Depending on your thermostats, this is done manually with a slide switch on your thermostat's sub-base or with a digital push button. Consult the Owner's Manual for your particular thermostat.

If leaving for a long period of time, set the thermostats to the Heat mode and adjust the set point to a temperature that will prevent freezing in all areas. Then move the 'Vacation' Switch, located on the Zone Control panel, to the 'On' position. The system will then be controlled by the Zone 1 thermostat only. This prevents having to adjust all thermostats twice, when leaving and upon return. It is not recommended to turn off all thermostats for extended periods in climates where freezing temperatures may occur.

Thermostat Replacement

Not all thermostats will work for all systems. If you need to replace a thermostat, call the Lennox dealer that installed your system. Certain types of thermostats, known as power robbing thermostats, could cause unintended operation and should never be used. You can tell if a thermostat is power robbing by looking to see if it does not have a wire connection terminal labeled C (common). Power robbing thermostats do not have a C terminal. Only thermostats with a C terminal should be installed.

Maintenance

Once your Lennox LZP-4 Zone Control System is properly installed, there is no maintenance required to the control panel components. Standard heating and cooling equipment maintenance is required.

If you have a problem turning on either heating or cooling, it may simply be a normal built in time delay.

