



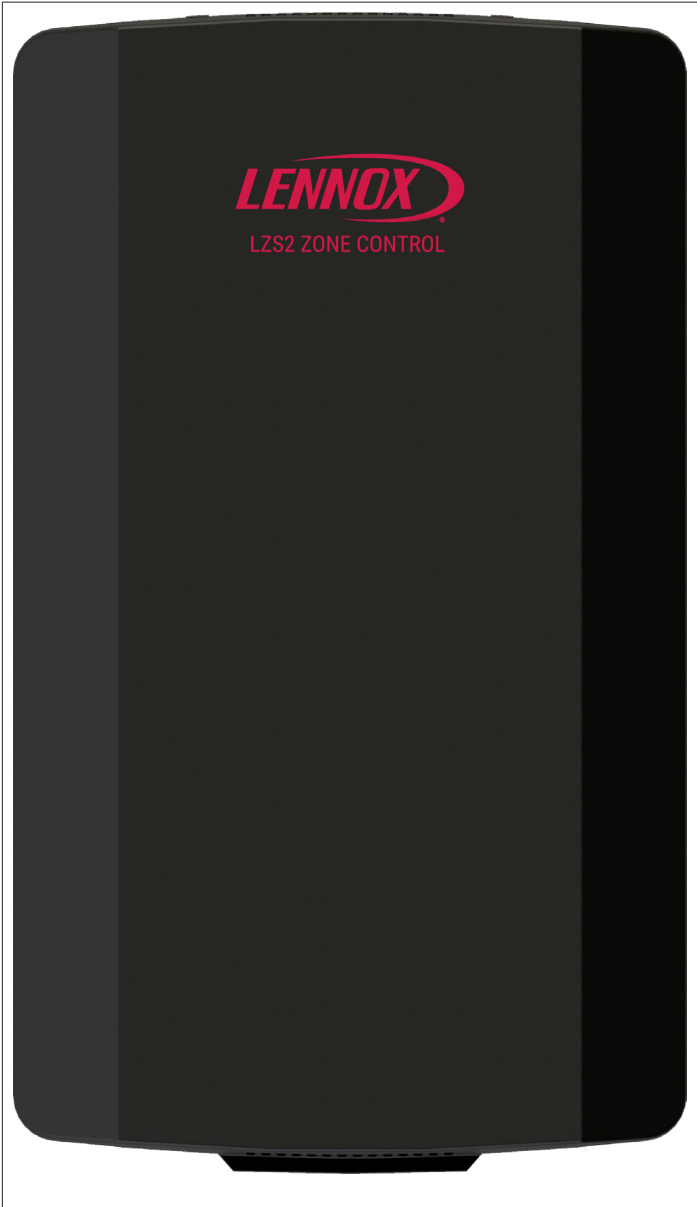
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Dallas, Texas, USA

## ZONING SYSTEM

# LZS2 ZONE CONTROL PANEL

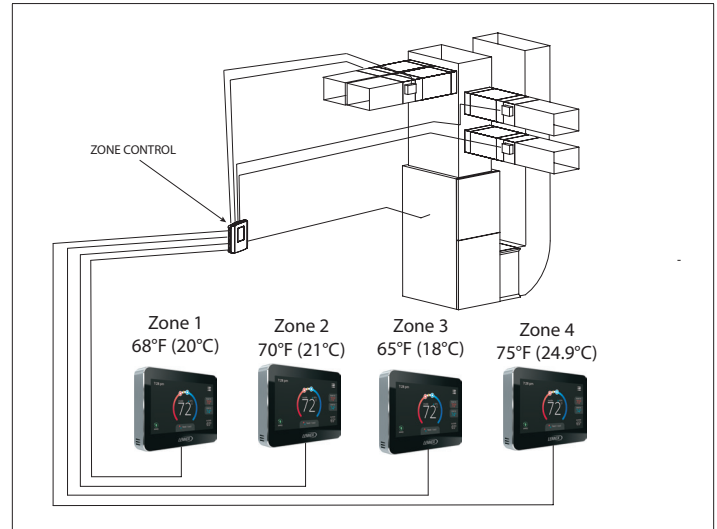
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### USER GUIDE FOR ZONE CONTROL PANELS USED WITH LENNOX HEATING AND COOLING EQUIPMENT (Y7768) USER GUIDE



#### Overview

This zone control panel 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, this 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.



**Figure 1. Four-Zone Control System**

The components that make up the zone control system are the thermostats, zone control panel, zone dampers, and heating and cooling equipment as shown in the illustration above. The zone control panel is typically located on an inside wall, most likely 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 that are placed in each zone are directly connected to the zone control panel.

This zone control panel 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. Your installing dealer has chosen the correct system configuration for your application. This zone control panel can handle four stages of heat (two-stage compressor, two auxiliary heat) and two stages of cool. The zone control panel can control 2, 3 or 4 zones.

Remote access is available using either the E30 or M30 Smart Wi-Fi thermostats.

#### **⚠ WARNING**

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional HVAC installer or equivalent, service agency, or the gas supplier.

## LEDs and Buttons

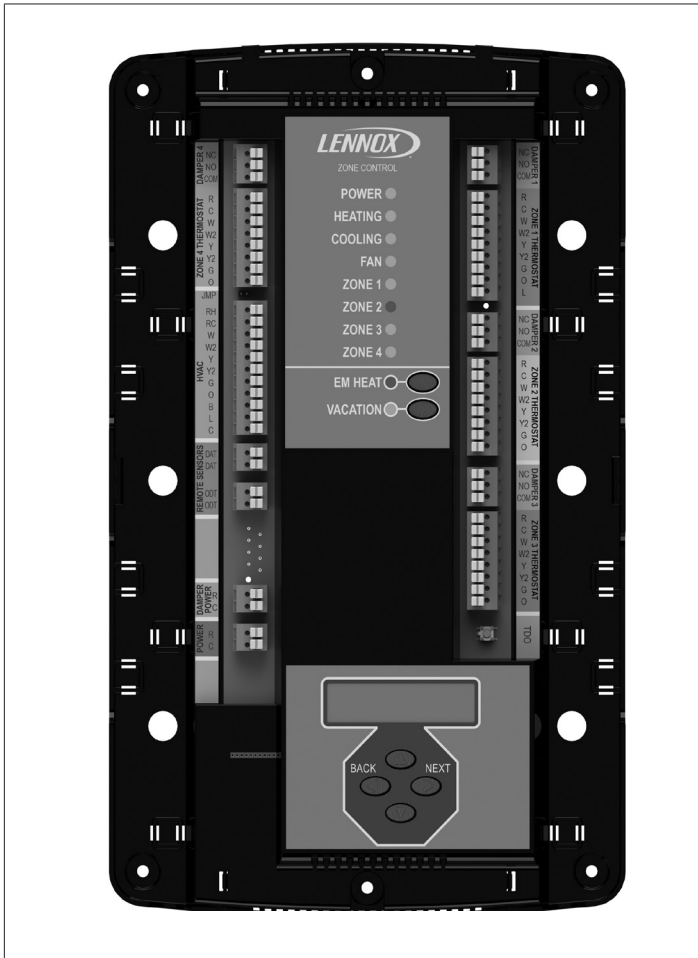


Figure 2. LED and Buttons (Front Panel Removed)

## BUTTONS and LEDs

- POWER** - Green: 24VAC is present. When the time delay override button (located on left side under panel cover) is pressed, the power LED will flash.
- HEATING** - Green: Heating is active. Flashing: Discharge air temperature sensor - high temperature limit reached.
- COOLING** - Green: Cooling is active. Flashing: Discharge air temperature sensor - low temperature limit reached.
- FAN** - Green: Fan output is active.
- ZONE 1** - Green: Damper is open. Red: Damper is closed.
- ZONE 2** - Green: Damper is open. Red: Damper is closed.
- ZONE 3** - Green: Damper is open. Red: Damper is closed.
- ZONE 4** - Green: Damper is open. Red: Damper is closed.
- EM HEAT** - Used to enable/disable Emergency Heat mode. In Emergency heat mode the compressor will be locked out and only auxiliary heat will be used to satisfy heating calls.

**NOTE:** The EM heat button does not function when the zone panel is configured to control conventional equipment.

- VACATION** - Used to enable/disable vacation mode. In vacation mode all zones will be controlled by the thermostat in zone 1. Green LED indicates vacation mode is enabled.

## Basic Operations

Your zone control system will allow you to increase your comfort by directing conditioned air to separate area zones based on each zone's thermostat setting.

To operate this system, just set or program each zone 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.

Your zone control system is designed to direct conditioned air only to the rooms served by that zone thermostat. However, due to the open design of homes today (open floor plans), 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.

**NOTE:** Closing interior doors could be an issue if only one return air vent is present in the home.

The following sections describe how to make heating and cooling calls.

## HEATING OPERATIONS

### To start heating:

- 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.
- When a thermostat makes a call to the zone panel for heating, the zone panel will initiate a heating call to the equipment and close the damper for all zones that are not calling for heat. Following a 2-minute (heat/cool or auxiliary) or 4-minute (heat pump) minimum on time, the heating call will end when all zones stop calling for heating.

When a heating call ends, a minimum off time delay of 4 minutes must elapse before another heating/cooling call can begin.

## COOLING OPERATIONS

### To start cooling:

- To start cooling: 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 User Guide for details.

2. When a thermostat makes a call to the zone panel for cooling, the zone panel will initiate a cooling call to the equipment and close the damper for all zones that are not calling for cooling. Following a 4-minute minimum on time, the cooling call will end when all zones stop calling for cooling.

## MULTI-STAGE EQUIPMENT

Your installing dealer has configured your control to use either staging based on the zone thermostat, based on time, or based on zones calling. The dealer will be able to describe the set up choice based on your system location or your heating and cooling needs.

## HEAT / COOL CHANGEOVER

When a call for heating/cooling exists and an opposing call is made from another zone, a changeover time limit of 20 minutes begins at the time that the opposing call is made. If the original call is not satisfied within that 20-minute time period, the call will be interrupted, and the zone panel will turn the equipment off and complete the normal fan purge cycle and minimum equipment off time. The opposing call will then be answered. After 20 minutes, if the original call still exists, the opposing call will be interrupted and the original call can once again be recognized.

## EMERGENCY HEAT OPERATION

*(Heat Pump Equipment Only)*

This feature can only be used with heat pump systems. The EM heat button can be used to enable emergency heat mode. When emergency heat mode is enabled, any call for heat will be answered with auxiliary heat equipment and the heat pump will be locked out. This feature allows the homeowner to activate emergency heat mode at the zone panel. The EM heat LED will illuminate whenever emergency heat mode is enabled or there is an emergency heat call from a thermostat.

**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 zone 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 all dampers open.

An LED on the zone panel enclosure will indicate if the damper for a zone is closed. The LEDs are labeled zone 1 through 4 and indicates a closed damper in zone 1, zone 2, zone 3, and zone 4 respectively.

## FAN OPERATION

The zone 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 the zone panel enclosure will indicate if the HVAC fan is on.

## VACATION MODE

The vacation mode button allows the homeowner to switch from normal operation to vacation mode. When vacation mode is enabled, the thermostat in zone 1 becomes the only zone from which a call for heating or cooling is recognized.

Additionally, when in vacation mode, all dampers remain in the open position. This feature allows the homeowner to create a setback at a single thermostat and control the whole home based on that thermostat. The vacation LED will illuminate when vacation mode is enabled.

## TURNING THE SYSTEM OFF

**In order to shut off the system and prevent the Lennox zone 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 thermostat user guide.

### 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. Check with your installing contractor for proper thermostat replacement.

### Maintenance

Once your zone control panel 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.

