


**INSTALLATION INSTRUCTIONS**

**IMPORTANT:** Read entire instructions before turning on the thermostat.

**SAFETY CONSIDERATIONS**

Read and follow manufacturer instructions carefully. Follow all local electrical codes during installation. All wiring must conform to local and national electrical codes. Improper wiring or installation may damage the sensor.

Recognize safety information. This is the safety alert symbol.  When the safety alert symbol is present on equipment or in the instruction manual, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety alert symbol. DANGER identifies the most serious hazards which will result in severe personal injury or death. WARNING signifies a hazard that could result in personal injury or death. CAUTION is used to identify unsafe practices which would result in minor personal injury or property damage.

**OVERVIEW**

The Extra-Zone system is used to create a subzone within a larger conditioned area. The subzone is created by controlling (opening or closing) the dampers which send air into the subzone. The Extra-Zone module can also be used to control ventilation to the zone.

For example, an Extra-Zone system is installed in an over-conditioned conference room which gets too cold while other areas of the building are being cooled. A person inside the room would set the thermostat for Heat. The Extra-zone module compares the thermostat demand (Heat), with the duct temperature (less than 80 degrees F), and closes the zone damper, keeping the room from being overcooled.

The Venstar Extra-Zone system consists of 4 parts:

- Field-supplied zone thermostat with power supply
- Field-supplied zone damper
- Duct sensor
- Extra-Zone module

The zone thermostat determines the demand for the zone and sends the information to the Extra-Zone module; it does not control the HVAC equipment. The zone damper controls how much system air is allowed into the zone. The duct sensor senses duct temperature and sends information to the Extra-Zone module. The Extra-Zone module takes the zone thermostat demand duct temperature information and determines whether the zone damper will be open or closed.

**INSTALLATION**

**1.** Install the field-supplied thermostat in the zone. Be sure to follow all recommendations regarding thermostat location described in the thermostat installation instructions.

**2.** Install the Extra-Zone module in a location near the supply duct and damper. The duct sensor is pre-wired to the Extra-Zone module. Make sure that the Extra-Zone module is placed close enough to the desired duct sensor location.

**3.** Connect the thermostat to the Extra-Zone module. Connect the C, R, W, Y, and G terminals of the thermostat to the C, R, W, Y, and G terminals of the Extra-Zone module (see Fig. 1 on reverse side).

**4.** The power supply can be connected to the thermostat or the Extra-Zone module. Connect the C and R terminals of the power supply to the C and R terminals of the thermostat or the Extra-Zone module. Do not connect separate power supplies to both devices.

**5.** If not already installed, install the field-supplied zone damper(s) in the supply side duct(s), which will provide conditioned air to the zone.

**6.** Run the duct sensor from the Extra-Zone module to the supply duct of the damper. Install the duct sensor in the supply duct a few feet before the zone damper. If the duct temperature sensor wiring is not long enough, use a 3-conductor thermostat cable (18 to 24 gauge). ***This cable is NOT suitable for any length greater than 75 feet.*** Be sure to wire cap and tape all connections.

**7.** Connect the Extra-Zone module to the damper(s). Connect the BROWN wire from the Extra-Zone module to the COM terminal of the damper. Connect the RED wire of the Extra-Zone module to the OP (open) terminal of the damper. Connect the WHITE wire of the Extra-Zone module to the CL (close) terminal of the damper (see Fig. 1). Up to four dampers may be controlled by one Extra-Zone module. (see Fig. 2 for wiring multiple dampers).

**OPERATION**

**Heating and Cooling Control**

The zone thermostat is located inside the subzone and does not directly control the HVAC unit. Duct temperature and zone thermostat demand are compared to determine if the dampers will open or close. (See Table 1 below.)

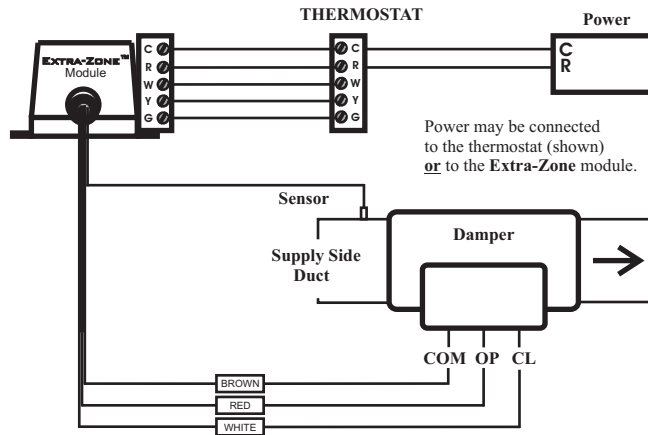
**Table 1  
Extra-Zone Control Settings**

THERMOSTAT DEMAND	DUCT TEMPERATURE	DAMPER POSITION
Call for heat	80 F or above	Open
Call for heat	Less than 80 F	Closed
Call for cool	70 F or below	Open
Call for cool	Greater than 70 F	Closed
No demand, Fan set to ON	70 F to 80 F	Open
	Below 70 F or above 80 F	Closed
No demand, Fan set to AUTO	70 F to 80 F	Closed
	Below 70 F or above 80 F	Open

## Ventilation Control

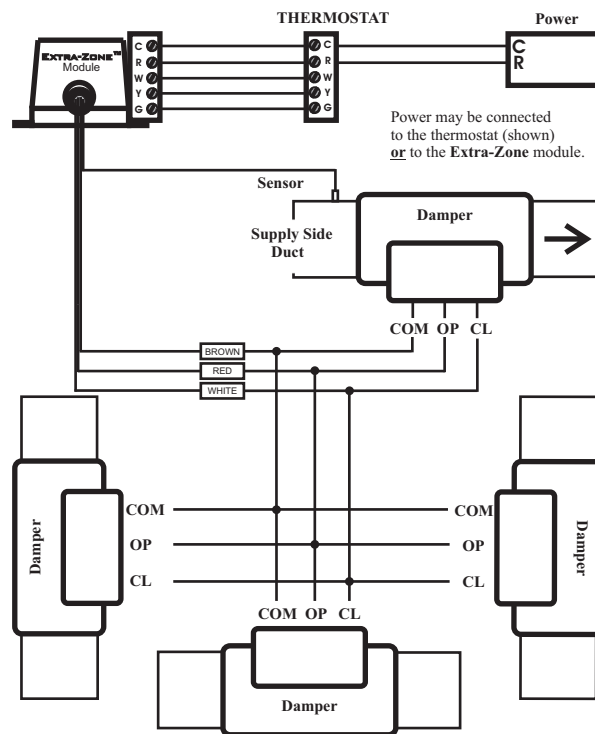
If the room thermostat is not set for heating or cooling (no demand), the Extra-Zone module will provide ventilation to the room based on the Fan setting. If the fan is set to ON, the damper will remain open while the duct temperature is between 70 and 80 degrees F. If the fan is set to AUTO, the damper will remain closed while the duct temperature is between 70 and 80 degrees F.

## Sample Wiring Diagrams



**Fig. 1 - Extra-Zone System Installation**

The temperature sensor may be located in a more suitable location if desired.



**Fig. 2 - Multiple Damper Installation**

Up to 4 dampers may be connected to the **Extra-Zone** module.