

**CONTROL SEQUENCE: E6  
VARIABLE AIR VOLUME • AUTOMATIC HEATING/COOLING  
CHANGEOVER WITH TIME PROPORTIONAL ELECTRIC  
AUXILIARY HEAT (PERIMETER)**

Advanced micro-computer electronics and PI control algorithms provide precise temperature control. The thermostat provides a true multi-position modulating output to a tri-state floating actuator. A 24 VAC pulsed signal controls the reheat. This eliminates wasted energy caused by typical on-off cycling with conventional thermostats resulting in significant energy savings and superior comfort. Control accuracy is  $\pm 0.4^{\circ}\text{F}$  ( $\pm 0.2^{\circ}\text{C}$ ) around set point. The room occupant is able to reduce the set point to the lowest comfortable setting. A mechanical air volume minimum stop is provided (field set).

**Sequence of Operation:**

This arrangement is for systems supplying cool air in summer and hot air in winter. A duct temperature sensor senses inlet temperature and automatically reverses control action when supply air is above  $78^{\circ}\text{F}$  ( $26^{\circ}\text{C}$ ).

**Cooling Mode:**

Supply system in cooling mode (below  $75^{\circ}\text{F}$  ( $24^{\circ}\text{C}$ )). On a rise in room temperature above set point, the bypass damper will modulate open, increasing the flow of cool air to the room, closing the bypass at the same time. On a fall in room temperature below set point, the bypass damper will modulate closed, reducing the flow of cool air into the room and opening the bypass at the same time. If room temperature continues to fall, a SCR/SSR controlled electric heat coil is energized.

**Heating Mode:**

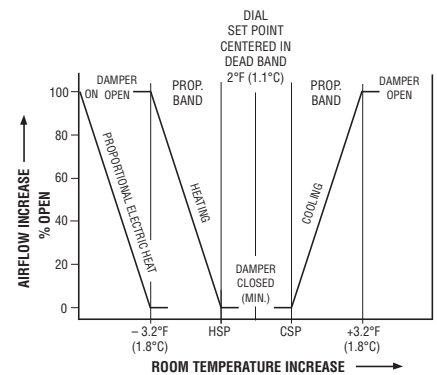
Supply air system in heating mode (above  $78^{\circ}\text{F}$  ( $26^{\circ}\text{C}$ )). On a rise in room temperature above set point, the bypass damper will modulate closed, reducing the flow of warm air into the room to maintain set point and opening the bypass. On a fall in room temperature below set point, the bypass damper will modulate open, increasing the flow of warm air into the room to maintain the set point and closing the bypass at the same time. If room temperature continues to fall, a SCR/SSR controlled electric heating coil is energized.

**Options and Accessories:**

- 24 VAC Control Transformer
- Toggle disconnect switch
- Special features:

**Notes:**

1. The adjustable minimum stop on the actuator must be field set to ensure sufficient airflow over the heating coil (70 cfm [33 l/s] per Kw minimum).
2. The room thermostat requires field configuration. See supplied VT7200 series installation guide.



Dimensions are in inches (mm).

<b>SCHEDULE TYPE:</b>				
<b>PROJECT:</b>				
<b>ENGINEER:</b>		<b>DATE</b>	<b>B SERIES</b>	<b>SUPERSEDES</b>
<b>CONTRACTOR:</b>		3 - 22 - 16	3400	2 - 29 - 16
				<b>DRAWING NO.</b>
				3400CD-E6