

T.E.C. II - WIRING INSTRUCTIONS

ALL WIRING AND LABEL INSTRUCTIONS MUST BE FOLLOWED:

This Zone Controller includes TWO DAMPER MODULES and a TEC CONTROL PANEL LABELED TO PREVENT INCORRECT INSTALLATION, for example, “This End Up” and “Do Not Cut Below This Line”. The Control Board must be mounted where air can circulate around it for cooling. It gives off a small amount of heat.

AIR HANDLER WIRING FOR HEAT PUMP

Connect the wires to the Air Handler from the Control Panel terminals marked 1-2-3-R-C as shown on the attached wiring diagram No. M94C08. If a two stage heat pump is used, the first stage connects to Control Panel terminal No. 1 marked “Compressor”. The second stage connects to Control Panel terminal No. 3 marked “Emergency Heat”. If a four stage heat pump is used with first stage, second stage and two auxiliary heat control steps, the Control Panel should be connected to the Air Handler as follows:

- A. Control Panel terminal No. 1 marked “Compressor” starts the compressor and Air Handler first stage heat.
- B. Control Panel terminal No. 3 marked “Emergency Heat” connects to Air Handler terminal for compressor run and second stage heating.
- C. Third and fourth auxiliary heat stage must by-pass the Control Panel and be directly connected from the thermostat to the third and fourth stage heat terminals in the heat pump Air Handler.

The Control Panel has an interlock built into its controls that will prevent heating and cooling being turned on at the same time from the two thermostats. In case this should happen, a change over valve in the heat pump will be de-activated into the heating mode even though one stat calls for cooling. If the error is not corrected, the heat will continue to stay on until the stat calling for heat is satisfied and switches the heat off. At that time, the other stat will switch the cooling system on and will continue until the cooling stat is satisfied and cuts off, or until the stat switched to heat resets itself and turns the heat on again.

AIR HANDLER FOR GAS AND ELECTRIC UNITS

Connect the wires to the Air Handler from the Control Panel terminals marked 1 - 2 - 3 -4 - R - C as shown on the attached wiring diagram No. M95C06. If a two stage heating system or a two speed compressor cooling system is used the Control Panel should be connected to the Air Handler as follows:

- A. In the cooling mode, Control Panel terminal No. 4 marked “Compressor” starts single stage cooling. If a two stage cooling system is used the “compressor” circuit will activate the first stage. The “Accessory” circuit, terminal No. 1, will be used to activate the second stage cooling in the Air Handler.
- B. In the heating mode, Control Panel terminals No. 3 marked “Heat” activates the first stage of heating. If a second stage heating is used, it is activated by the “Accessory” circuit terminal No. 1 unless it is used for cooling. In that case an additional terminal will be provided on the thermostat terminal strip where the Air Handler wire will be terminated

The Control Panel used for gas or electric has the same type of internal electrical interlock to prevent heating and cooling from being turned on at the same time as described above on Heat Pump Controls.

DAMPER WIRING

Connect the wiring from Control Panel terminals D-Com and D1 on one damper to control the temperature in the area having the first priority on heating or cooling, called “MASTER” on the attached drawing. Connect terminals D-Com and D2 on the damper to control the second priority “SLAVE” zone.

Do not confuse “D-Com” and the Air Handler terminal “C” common. They are not the same common and must not be connected together.

When a damper solenoid is energized, the damper closes and is held closed by the solenoid. This makes a “fail - safe” system that could fail only in a safe condition with the damper open.

When the damper solenoid is energized it momentarily receives a pulse of 28 volts DC to allow the damper to close, then the voltage drops down to approximately 9 volts for holding power.

THERMOSTAT WIRING

Connect wiring from Stat 1 and Stat 2 as shown on the attached drawings. The Control Panel has a number 5 terminal on each thermostat terminal strip to be connected as follows:

For 50 / 50 (Parallel) operation, leave the two number 5 terminals disconnected. The 50/50 operation means both zones will have equal access to the full output of the heating or cooling unit and will be limited only by the thermostat in the zone and the capacity of the heating or cooling unit. For example, if Stat 1 is calling, the damper for Zone 2 will close; if Stat 1 and 2 are calling, both dampers will open because there is an interlock that

prevents the dampers from closing when both stats are calling. When both stats are satisfied, the heating or cooling unit will shut down until one stat calls for a change in temperature.

For 85 / 15 (Priority) operation of the Zone Controller connect a jumper between the two terminals number 5 on the stat terminal strip.

The 85 / 15 or Priority operation means Stat 1 controlling Zone 1 will have first priority on all heating or cooling available until the stat in Zone 1 is satisfied. At that time, Stat 1 will switch off and Stat 2 may switch on until Stat 2 is satisfied or until Stat 1 switched on again. This ensures Zone 1 temperature will be controlled with the full output of the heating or cooling unit and Zone 2 will receive the balance of the unit capacity until Stat 2 is also satisfied.