Installation Instructions

MODSTAT / MODS2
Digital Communicating
Zone Thermostat

Description

The **ModStat** is designed for the *Zonex Commander (Plus), ModCom* DDC systems, and the System 2000 ***GEN II*** control systems. The ModStat version thermostat drives medium pressure and heavy duty, power open/power close dampers for modulating applications. THE MODS2 version drives low pressure, power close/spring open dampers for 2-position systems, which are 2000 CFM or less.

The unique grey display backlight is constantly illuminated in the Occupied mode. The display backlight will go out in the Unoccupied mode. If any button is pressed while the thermostat is in the Unoccupied mode, the backlight will illuminate for 5 seconds. The backlight is also illuminated when the thermostat is in the 2-hour override mode.

Installation

WIRING

All 24 volt and communication wiring connections are made to terminal blocks on the thermostat sub-base. The communication terminal block (RX TX/RX TX) is designed as a junction for two sets of 22 ga solid copper, twisted pair communications cable. The cable should be daisy chained from thermostat to thermostat. *See Installation Manual*

1. Install the thermostat sub-base on an interior wall away from direct sunlight, supply air currents, or any heat generating source. Mounting screws and anchors are provided. The sub-base may be installed on a vertical 2x4 electrical box.
2. Connect the control wires “R” & “C” to the 24v terminal block. Verify R & C polarity is the same on each thermostat.
3. On the ModStat, connect the damper control wires from MC, RC and RO to the actuator terminals. For MODS2 connect MC and RC to the damper motor.
4. Connect the RX TX communication wires on the right hand terminal block; there are 2 sets of RX TX terminals to make the daisy chain wiring easier.

WIRING cont.

NOTE: For ModCom and Commander Plus systems, when using shielded twisted pair wire (Belden 8450) connect the shield conductors together, as there are no electrical connections on the thermostat base terminals. The shield will be landed on the Command Center on the G or TR2 terminal.

Control Wire Polarity: To insure stable system communications, you must verify that every ModStat has the same polarity on terminals “R” and “C”.

Refer to the ZCMAN Installation and Applications Manual for more detailed wiring instructions.

CONFIGURATION

Addressing

Each thermostat must have a unique address from 1-20. For System 2000 ***GEN II***, the ModStats are addressed from 1-10.

1. Press and hold the *Menu* button until you see the system mode display on the lower right begin to change modes; then press and hold the *Heat/Cool* button with the *Menu* button.
2. When the display shows “address,” release the *Menu* and *Heat/Cool* buttons, and press the UP or DN button until the correct address is displayed in the upper right of the display.
3. After setting the address, the thermostat will automatically go back to normal operation; and the set point temperature will replace the address number just programmed.

Display Temperature Calibration

Thermostats are calibrated at the factory and should require no further adjustment. However, the display space temperature may be field calibrated by the following procedure:

1. Press and hold the *Heat/Cool* and *Select* buttons together; then press and release the UP button to increase the display temperature by one degree.
2. To lower the temperature display, press the DN button once, after pressing the *Heat/Cool* and *Select* buttons. This makes a 1 degree change.

Manual Operation

Adjusting Set Points

The Heat or Cool set points can be displayed by pressing the *Heat/Cool* button; the set point will be indicated on the upper right of the display.

Heat - If "Heat Setting" is displayed on the top right of the display, simply press the UP or DN button to change the heat set point. If "Cool Setting" is displayed and you want to change the Heat set point, press the *Heat/Cool* button twice to change from "Cool Setting" to "Heat Setting". Then press the UP or DN button to change the set point.

Cool - If "Cool Setting" is displayed on the top right of the display, simply press the UP or DN button to change the cool set point. If "Heat Setting" is displayed and you want to change the Cool set point, press the *Heat/Cool* button twice to change from "Heat Setting" to "Cool Setting". Then press the UP or DN button to change the set point.

Changing Mode

The thermostats are auto changeover, but specific modes may be selected. Auto mode is the default.

Heat only – Press and hold the *Menu* button and note the mode display begin to change. Press the *Select* button when Heat is displayed.

Emergency Heat - Press and hold the *Menu* button and note the mode display begin to change. Press the *Select* button when Emg is displayed.

Cool only - Press and hold the *Menu* button and note the mode display begin to change. Press the *Select* button when Cool is displayed.

System Off - Press and hold the *Menu* button and note the mode display begin to change. Press the *Select* button when Off is displayed.

Auto mode – Press and release the *Menu* button.

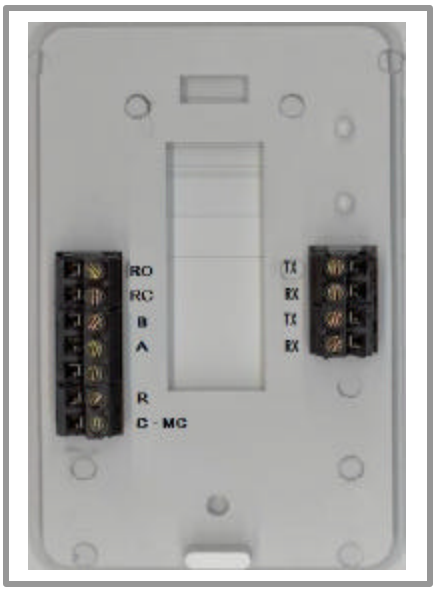
Override

When the thermostat displays "Unoccupied" (top of display), a 2-hour temporary override may be initiated by pressing the Override/*Select* button. When additional override time is required, press the Override/*Select* button again.

Reheat

The **ModStat** can be field configured for reheat operation, including Fan Powered Boxes. To set the ModStat for Reheat, press and hold the *Heat/Cool* and *Select* buttons together and then press the Menu button; release all three buttons and the ° symbol will appear next to the heat and cool setpoint temperature display.

NOTE: An air proving switch must be wired into the AUX "B" output to protect the electric heating devices.



24V Terminal Block

RO – Damper Run Open (not used for MODS2)
RC – Damper Run Close
AUX B – Reheat/Aux Heat 1 amp max load @24vac
AUX A – Fan Relay .3 amp load @ 24vac
R – 24vac
C-MC – 24vac common
(18 ga. Minimum wire size)

Communication Terminal Block

TX – Data Transmit
RX – Data Receive
TX – Data Transmit
RX – Data Receive
(Twisted pair or shielded twisted pair)

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