-- BROCHURE SUPPLEMENTS –
-- Model AH207 and AH207N2Z Temperature Averaging Steam Heating Control –

The R&D Electronics model AH207 offers the latest technology in controlling commercial and multifamily steam heated buildings using remote temperature monitoring. Steam piping systems do not distribute heat evenly due to factors such as the length of piping, inadequate venting, improperly sized radiators, etc. Environmental variables such as wind, direct sunlight, building envelope leaks, misc. gas and electric utilities all affect room temperature imbalance. Strategically locating multiple sensors throughout the building provides the most reliable and accurate temperature control for widely varying conditions.

The R&D Electronics Model AH207 consists of a main panel, up to 7 remote indoor sensors, and an outdoor override sensor. The main panel has 17 LED which indicate all important ON/OFF operating conditions, including heat call, sensor faults, outdoor override, and the present time schedule. A simple 3-position slide switch labeled SET, READ, and RUN operates the 32-character LCD display.

A built-in time clock mounted on the front panel contains the Day/Night schedule. A second time clock may be added to provide an easy method of achieving 3 setpoints. If the average building temperature falls below the building setpoint shown in the RUN menu, the heat call circuit will close. After steam builds, and the average temperature of the building rises the amount of the temperature rise shown in the SET menu, the heat call circuit will open. The Outdoor Override setting (typically 55 F.) programs the warm weather shutdown.

The building setpoint can be programmed to proportionally increase a small amount (typically 1.5F, though you may change it) as outdoor temperature decreases. The starting reference is 70 F. outdoors, at which point the building setpoint is equal to the day temperature shown in the SET menu. As outdoor temperature decreases and reaches 30F, the building setpoint will be +.75F, and at -10F. outdoors, the setpoint will be +1.5F.

Mini rocker switches can disable a sensor from being included in the building average temperature. If a sensor wire becomes open or shorted, that particular sensor is automatically considered out of range and excluded from the average building temperature, and the respective fault LED turns on. A manual bypass switch located on the front panel will close the heat call circuit in the unlikely event of a control failure.

OPTIONAL FEATURES:

* Pre starts a vacuum pump, and delays pump turnoff.
* Additional relay outputs for a second and third boiler, with early shut down for a second (LAG) stage.

OPERATOR ADJUSTMENT

Place OPERATOR switch in SET, press VIEW NEXT, then press (+) or (-) to increase or decrease setpoint.

SET

1 DAY TEMPERATURE SETPOINT: {72}

The AH207 will set the average building temperature, although the maximum or minimum worst-case room temperatures may vary greatly. Usually, the average day temperature must be set between 70 and 75 degrees to assure that all locations will receive enough heat. The more closely a building is balanced, the lower you may set the average day temperature. Keep in mind that air infiltration may cause floors to be 2-4 degrees colder than temperatures measured by the heat sensors 5 feet above the floor.

2 NIGHT TEMPERATURE SETPOINT: {68}

The amount of night setback is a compromise between fuel savings, and comfort. During an 8-hour night setback period, a setback of 3 and 7 degrees will save nearly as much fuel as a 10 degree setback, and cause less discomfort.

3 ALTERNATE TEMPERATURE SETPOINT: {70 to 74}

Typically a Monday thru Friday setback from 9AM to 3PM, or a 7-day boost from 4PM to 9PM.

4 *WARM WEATHER SHUTDOWN: {55}*

55 F. to 60 F. works well in most buildings.

5 HEATING CYCLE LENGTH: *{1.0}*

A typical setting is 1.0 deg. F. To determine the most efficient T Rise setting, you will need to experiment. If your setting is too low, short cycling will result. The boiler will turn off too soon, leaving radiators at the far end of the building only half full of steam. If your setting is too high, unnecessary overshoot and too much time between heating cycles can result.

6 COLD WEATHER BOOST: *{1.5}*

The building setpoint can be programmed to proportionally increase a small as outdoor temperature decreases. The starting reference is 70 F. outdoors, at which point the building setpoint is equal to the day temperature shown in the SET menu. As outdoor temperature decreases and reaches 30F., the building setpoint will be +.75F., and at –10F. outdoors, the setpoint will be +1.5F. The more air tight the building, the lower you may set the Cold Weather Boost.

PANEL ROCKER SWITCHES: *{YES}*

Selects the room sensors to be included in the average building temperature.

READ

Place the OPERATOR slide switch in READ. Press the VIEW NEXT. The READ menu will display the outdoor temperature, and the 7 zone sensors.

RUN

The RUN menu will display (1) the average building temperature, (2) the calculated building setpoint determined by the present time schedule and outdoor temperature, (3-5) boiler runtime history for the last 2 days and the 14-day average, (6) zone data logging for 2 hrs. in six 20 minute intervals, (7-10) zone data logging for 12 hrs. in six 2 hr. intervals for a total of 48 hrs. Data log reads oldest first (upper left) and most recent last (lower right) (Also see SYSTEM: Line 3).

SYSTEM INITIAL SETUP: (Press the + plus and - minus keys together):

1 SENSOR MAXIMUM LIMIT: *{100}*
2 DATA LOGGING ITEMS 1-8 *{3}*
3 ZONE LOG APT. # ZONE 1-7 *{1}*

ORDERING INFORMATION:

Model AH207 comes standard with 2 relay outputs controlling (1) boiler, and (1) air damper or a second boiler. Order Model AH207M to operate a vacuum pump, a second boiler, and a third boiler which can be "staged" for early shutdown.

-- Model AH207 N2Z -- Temperature Averaging Steam Heating Control –

Dual Heating Zones, 4 Sensor and 3 Sensor Zone Averaging

The primary application for the product is for 2 separate steam zone valves, or where a building has two separate boilers for two separate heating zones. It is very similar to the 7-sensor single zone model with a few exceptions:

(1) Day and Night temperatures are programmable from separate time clocks for each building zone. There is no 3rd temp. setpoint option.

(2) A Skip Setback function has been added to the SET menu. If you want to immediately override the present night setback schedule, enter "YES". If as it happens you entered "YES" during the day period, the next scheduled night period will not occur. The next night period (typically the next day) will occur as usual. Note also that during the regularly scheduled setback period, the timer will display OFF, but the control will not go to the NIGHT temperature. It is very convenient to be able to override a scheduled setback occurring sometime in the future, and not have to change the timer schedule, *and be able to do it at the control or over the modem.*

(3) Each building zone has its own pass code number. When reading sensors or adjusting setpoints over a modem, the last two digits of the pass code identify the building zone. Any number of heating controls can be connected together through the optional Model RS485 Networking Module. You can dial into the modem to access setpoints, data logging, etc., for a large number of three or four sensor building zones.