



N502 BACnet DIGITAL THERMOSTAT 7-DAY PROGRAMMABLE SCHEDULE

VARIABLE AIR VOLUME, MODULATING COOLING/HEATING WITH AUX. STAGED ELECTRIC HEAT AUTO CHANGEOVER • 2-PIPE SYSTEM

Auto Changeover

A thermistor type sensor measures entering water temperature and automatically changes controller from cooling mode to heating mode. At 10°F (6°C) below room temperature, the unit is in cooling mode. At 10°F (6°C) above room temperature, the unit is in heating mode. If the thermostat calls for cooling or heating and the controller does not sense that the 2-pipe system is in the correct central mode, the unit will remain at minimum airflow and valve will remain closed.

Discharge Air Temperature

The Discharge Air Temperature sensor (DAT) provides the controller with the coil leaving air temperature (LAT). This is used to control the modulating valve, to achieve the pre-set, but adjustable, discharge temperatures. On cooling, this controls humidity while on heating it controls occupant comfort.

SEQUENCE OF OPERATION:

Modulating Cooling

On a call for cooling, the chilled water valve will begin to modulate open. The valve will continue to open until the discharge air temperature reaches 52°F (11°C). Simultaneously, the fan will modulate from minimum airflow to maximum airflow to achieve room set point. Upon a decrease in cooling demand, the sequence will reverse.

Deadband

With no demand in the space, there will be no call for heating or cooling. The fan will be at a deadband set minimum airflow. The water valve and electric heat relay will be off.

Modulating Heating

On a call for heating, the hot water valve will begin to modulate open. The valve will continue to open until the discharge air

temperature reaches 90°F (32°C). Simultaneously, the fan will modulate from minimum airflow to maximum airflow to achieve room set point. Upon a decrease in heating demand, the sequence will reverse.

Auxiliary Electric Heat (in cooling mode)

On a call for heating with chilled water in the pipe, the water valve is closed. The fan will step up to the stage 1 fan airflow setting and the first stage of electric heat will energize to achieve room set point. Units with electric heat may have an optional second stage available. Upon an increased call for heat, the fan will step up to the stage 2 fan airflow setting and the second stage of heat will energize. On a decrease in heating demand, the sequence will reverse. On a call for heating with hot water in the pipe the electric heat is locked out.

Notes:

- EZstat is factory programmed for the specific sequence of operation.
- EZstat is also factory calibrated when airflow settings are provided for easy start-up.
- Field commissioning (password protected):
 - Max. and Min. airflow settings are field adjustable between the ranges on the unit's ECM fan curve calibration chart.
 - Deadband differential and other parameters are also adjustable.
 - Refer to EZstat Application Guide/IOM.
- Remote mounted 24 VAC thermostat is field wired (by others). Refer to application specific wiring diagram.
- Thermostats baseplate mounts to a standard 2" (51) x 4" (102) vertical handy box.

SCHEDULE TYPE:

PROJECT:

ENGINEER:

CONTRACTOR:

Dimension are in inches (mm).

DATE

B SERIES

SUPERSEDES

DRAWING NO.

9 - 23 - 14

FCS

NEW

FCS-N502