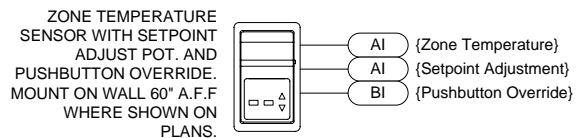
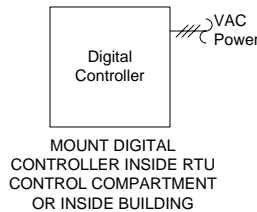
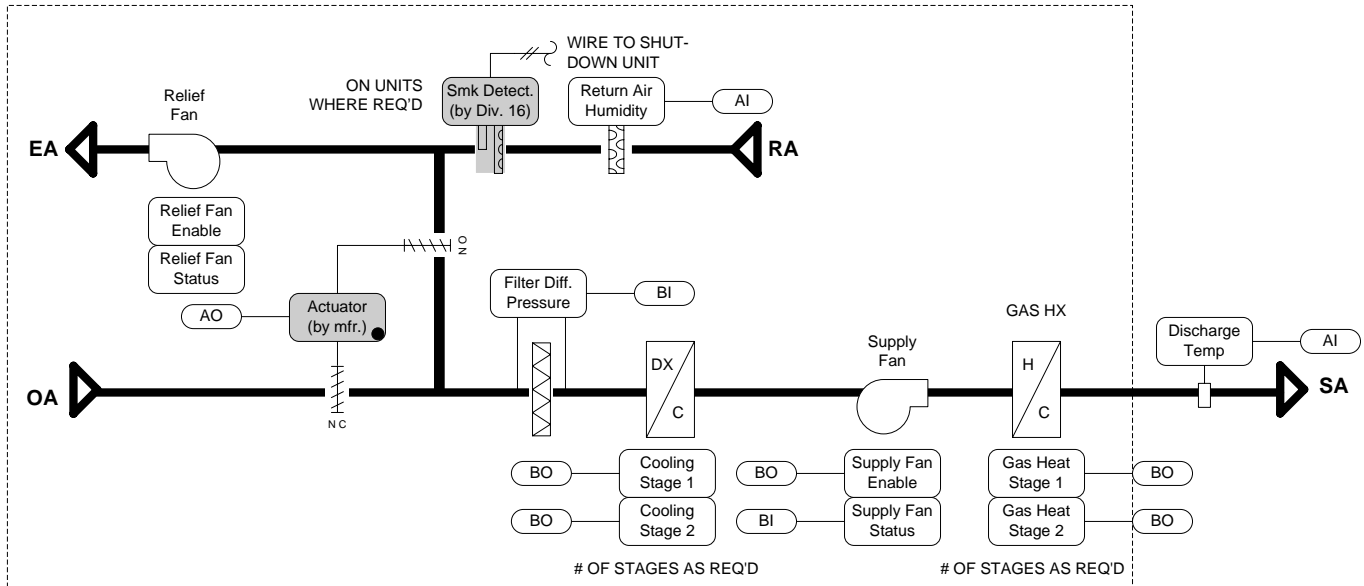


CONSTANT VOLUME ROOF-TOP UNIT CONTROL SCHEMATIC



SEQUENCE OF OPERATION

A. OCCUPIED MODE:

1. SUPPLY FAN CONTROL: THE SUPPLY FAN SHALL BE ENABLED TO RUN CONTINUOUSLY.
2. ECONOMIZER DAMPERS: WHEN THE OUTDOOR AIR CONDITIONS (ENTHALPY-BASED) IS BELOW THE CHANGEOVER SETPOINT, THE OUTDOOR AIR DAMPER SHALL BE ALLOWED TO MODULATE BETWEEN MINIMUM POSITION AND FULL OPEN IN ORDER TO SATISFY THE ACTIVE ZONE TEMPERATURE SETPOINT. MINIMUM OUTSIDE AIR DAMPER POSITION (ADJ.) SHALL BE CALCULATED BASED UPON SUPPLYING THE SCHEDULED MINIMUM OUTSIDE AIR VOLUME RATE. THE OUTSIDE AIR DAMPERS SHALL CLOSE IF ANY OF THE FOLLOWING CONDITIONS EXIST: (A) THE SUPPLY FAN IS OFF, (B) NIGHT SETBACK OPERATION, (C) MORNING WARM-UP OPERATION.
3. DX COOLING CONTROL: WHEN THE ECONOMIZER IS LOCKED-OUT OR IS UNABLE TO SATISFY THE ACTIVE ZONE TEMPERATURE SETPOINT, MECHANICAL COOLING STAGES SHALL BE SEQUENCED ON WHEN THE OAT IS ABOVE THE COOLING LOCK-OUT TEMPERATURE OF 55°F (ADJ.). MECHANICAL COOLING SHALL BE LOCKED-OUT IF ANY OF THE FOLLOWING CONDITIONS EXIST: (A) THE SUPPLY FAN IS OFF, (B) ECONOMIZER HAS NOT BEEN FULLY UTILIZED (IF ENABLED), (C) OAT IS BELOW LOCK-OUT TEMPERATURE.
4. GAS HEATING CONTROL: THE GAS HEATING STAGES SHALL BE ENABLED AS REQUIRED TO MAINTAIN THE ZONE TEMPERATURE SETPOINT. THE GAS HEATING SHALL BE LOCKED OUT WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE 60°F (ADJ.). IF IN DEHUMIDIFICATION MODE, THE GAS HEATING OUTDOOR AIR LOCK-OUT SHALL BE DISABLED.
5. DEHUMIDIFICATION CYCLE: IF RETURN AIR RELATIVE HUMIDITY LEVELS RISE TO ABOVE 60% (ADJ.) AND THE OUTSIDE AIR TEMPERATURE IS ABOVE THE DX COOLING LOCKOUT SETPOINT, THEN DX COOLING SHALL BE ENALBED AND THE GAS HEATING SECTION UTILIZE TO MAINTAIN THE ZONE TEMPERATURE SETPOINT. ONCE THE RETURN AIR RELATIVE HUMIDITY DROPS TO 55% (ADJ.), THE UNIT SHALL BE PLACED BACK INTO NORMAL OPERATION.
6. RELIEF FAN CONTROL: THE RELIEF FAN SHALL BE ENABLED WHEN THE OUTSIDE AIR DAMPER OPENS GREATER THAN 45% (ADJ.) TO RELIEVE BUILDING PRESSURE.
7. ALARM SHUTDOWNS: (A) RETURN AIR SMOKE DETECTOR (ON UNIT WITH AT LEAST 2000 CFM).

B. UNOCCUPIED MODE:

DURING UNOCCUPIED PERIODS (BASED UPON TIME-OF-DAY SCHEDULING OR DURING A SHELTER-IN-PLACE ALARM), THE RTU SHALL BE DUTY-CYCLED IN ORDER TO MAINTAIN THE UNOCCUPIED SETPOINTS (60°F WINTER, 80°F SUMMER; BOTH ADJUSTABLE). DURING UNOCCUPIED PERIODS, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. A TIMED AFTERHOURS OVERRIDE (2-HOURS, ADJ.) CAN BE INITIATED THROUGH A PUSHBUTTON ON THE ZONE SENSOR.