Control Sequence

3 SETPOINTS, DESIGN and FIELD DETERMINED

3.1 Information Provided by Designer

3.1.2 VAV Box Design Information

3.1.2.1 VAV Cooling-Only Terminal Unit

5 SEQUENCES OF OPERATIONS

5.2 Generic Ventilation Zones

5.3 Generic Thermal Zones

5.5 VAV Terminal Unit—Cooling Only

5.5.1 See "Generic Thermal Zones" (Section 5.3) for setpoints, loops, control modes, alarms, etc.

5.5.2 See "Generic Ventilation Zones" (Section 5.2) for calculation of zone minimum outdoor airflow.

CO2 DCV for cooling-only zones can lead to overcooling due to the faster rise in CO2 levels from people in the room versus the increase in cooling loads from people. Including heat in all zones with CO2 DCV is therefore recommended.

5.5.3 See Section 3.1.2.1 for zone minimum airflow setpoint Vmin, zone maximum cooling airflow setpoint Vcool-max, and zone maximum heating airflow setpoint Vheat-max.

If the minimum ventilation rate is more than 25% or so of the cooling maximum, or DCV is used, a reheat box is recommended to avoid overcooling. DCV logic is not provided for cooling-only boxes, because doing so results in periods of overcooling, as the CO2 levels due to occupants rises much faster than the cooling load due to occupants because of thermal mass.

Cooling-only terminal units can provide heating only when the AHU supply air temperature is more than 3°C (5°F) above the room temperature.

5.5.4 Active endpoints used in the control logic depicted in Figure 5.5.5 shall vary depending on the mode of the Zone Group the zone is a part of (see Table 5.5.4).

Table 5.5.4 Endpoints as a Function of Zone Group Mode

Endpoint	Occupied	Cooldown	Setup	Warmup	Setback	Unoccupied
Cooling maximum	Vcool-max	Vcool-max	Vcool-max	0	0	0
Minimum	Vmin*	0	0	0	0	0
Heating maximum	Vheat-max	0	0	Vcool-max	Vcool-max	0

5.5.5 Control logic is depicted schematically in Figure 5.5.5 and described in the following subsections.