



Cover story, continued...

User Restrictions and Controller protections: Part Two

Last month we focussed on some of our control features designed to prevent tampering and to protect your equipment. Temperature Setpoints, Control Mode, Keypad Locks and Ramp Restrictions were highlighted in round One. In round Two of our Cover Story, we continue our tutorial.

Unoccupied & Night Setback Mode

When the building is no longer occupied, night setback & unoccupied options are available. These options reduce energy consumption and will prolong equipment life cycle. There are two options; Night setback (NSB) or Unoccupied (NoOcc). The two modes are identical except for the terms used.

Unoccupied heating & cooling setpoints speak for themselves. The setpoints are adjustable and the range large enough to prevent heat or cool to be activated while unoccupied.

The override delay function is to allow users to bring the unit back to occupied mode for the duration of the parameter.

Motor mode is only available on the VAV box controller and dictates the damper position when unoccupied.

For fan coil controllers, the two configurations that will dictate the operation of the unit when unoccupied are the mode & fan mode. The mode can be set to maintain unoccupied setpoints or can be set to “off” to prevent unit from running while unoccupied. Note that there is a safety (freeze protection) in case the temperature drops below 4°C (39°F) that will restart the unit in heating to prevent the zone from freezing. This will work even if the unit is configured to “off” while unoccupied.

The fan mode can be set to automatic and will follow demand. If there are no demands, the fan will be off. The fan mode can also be configured at a certain speed (low, medium or high) if continuous fan operation is required for ventilation purposes.

	EVCB	EFCB	TUCB/TUHB
NSB/NoOcc setpoint Cool	AV.18	AV.12	AV.12
NSB/NoOcc setpoint Heat	AV.19	AV.13	AV.13
NSB override delay	AV.60	AV.85	AV.85
NoOcc override delay	AV.61	AV.86	AV.86
NSB/NoOcc mode	BV.20	BV.35	BV.35
NSB/NoOcc motor mode	MSV.36	Not available	Not available
NSB/NoOcc fan mode	Not available	Not available	MSV.26

Humidity Control (EFCB & TUCB/TUHB only)

For occupied mode, only one setpoint is used. The controller will decide if humidification or dehumidification is required based on the present relative humidity reading, the proportional & dead band. The EFCB and TUHB can use the internal or external humidity sensor using the configuration humidity control source. The setpoint can be limited by using minimum & maximum humidity setpoints or can be locked by using humidity setpoint lock. The humidity control mode enables the unit to operate in automatic (humidify & dehumidify), humidification only, dehumidification only or “off”.

	EFCB	TUCB/TUHB
Humidity Setpoint (occupied)	AV.73	AV.73
Humidity minimum setpoint	AV.74	AV.74
Humidity maximum setpoint	AV.75	AV.75
Dehumidification unoccupied setpoint	AV.76	AV.76
Humidify unoccupied setpoint	AV.77	AV.77
Humidity control source	BV.25	BV.25 (TUHB only)
Humidity setpoint lock	BV.26	BV.26
Humidify ramp lock	BV.27	BV.27
Dehumidify ramp lock	BV.28	BV.28
Humidity control mode	MSV.5	MSV.5

If the unit is configured to hold setpoints while in unoccupied mode (see unoccupied & night setback section), two unoccupied setpoints are available: one for humidification and one for dehumidification. Most of the time, humidification will not operate while in unoccupied mode. The unoccupied humidify setpoint range is large enough to prevent the humidifier from operating in that mode. For dehumidification, the relative humidity should never go over 60%RH to prevent bacterial growth and mildew. When using a BMS, ramps can be locked out by using humidify & dehumidify ramp lock functions.

Next month:

In our third and final round, we will complete the series with a tutorial on flow switches, controller display information and additional safeties. Stay tuned!

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