GENERAL SYMBOLS

- DAMPER WITH ACTUATOR (NORMALLY OPEN)
- DAMPER WITH ACTUATOR (NORMALLY CLOSED)
- DAMPER ONLY (NORMALLY OPEN)
- DAMPER ONLY (NORMALLY CLOSED)
- FILTER
- DUCT MOUNTED, BULB TEMPERATURE SENSOR
- DUCT MOUNTED, AVERAGING TEMPERATURE SENSOR
- TEMPERATURE LIMIT SWITCH, AVERAGING
- WELL MOUNTED TEMPERATURE SENSOR
- OUTSIDE AIR TEMPERATURE SENSOR
- STRAP-ON TEMPERATURE SENSOR
- DUCT MOUNTED PRESSURE SENSOR
- HOT/ CHILLED WATER DIFFERENTIAL WATER PRESSURE SENSOR
- STEAM PRESSURE SENSOR
- DUCT MOUNTED SMOKE DETECTOR
- DUCT MOUNTED PRESSURE SENSOR
- CURRENT SENSOR, CURRENT SWITCH, CURRENT SWITCH WITH RELAY
- DUCT MOUNTED HUMIDITY SENSOR
- DUCT MOUNTED HUMIDITY AND TEMPERATURE SENSOR
- OUTSIDE AIR HUMIDITY SENSOR
- DUCT MOUNTED AIR QUALITY SENSOR
- WALL MOUNTED TEMPERATURE SENSOR
- AIR FLOW MEASURING STATION WITH DIFFERENTIAL PRESSURE SENSOR
- HUMIDIFIER
- ELECTRIC HEATING COIL
- DIRECT EXPANSION COIL
- 3-WAY BALL VALVE
- 3-WAY VALVE SPRING RETURN
- 2-WAY VALVE NORMALLY CLOSED
- 2-WAY VALVE NORMALLY OPEN
- 2-WAY GLOBE VALVE NON-SPRING RETURN
- FAN
- PUMP
- CHECK VALVE
- FLOW DIRECTION ARROW
- PIPE/ DUCT BREAK
- CONTROL PANEL
- BOILER
- HEAT EXCHANGER
- AIR COOLED CHILLER
- WATER COOLED CHILLER
- COOLING TOWER

GENERAL ABBREVIATIONS

AIR-Q	Air Quality Sensor
BLR1-A	Boiler 1 Alarm
BLR1-C	Boiler 1 Command
BLR1-EN	Boiler 1 Enable
BLR1-O	Boiler 1 Output
BLR2-A	Boiler 2 Alarm
BLR2-C	Boiler 2 Command
BLR2-EN	Boiler 2 Enable
BLR2-O	Boiler 2 Output
BLR3-A	Boiler 3 Alarm
BLR3-C	Boiler 3 Command
BLR3-EN	Boiler 3 Enable
BLR3-O	Boiler 3 Output
BP1-C	Boiler Pump 1 Command
BP1-S	Boiler Pump 1 Status
BP2-C	Boiler Pump 2 Command
BP2-S	Boiler Pump 2 Status
BP-SP	Building Pressure Setpoint
C1CHW-S	Chill Water Valve 1 Status
C1CWV-S	Cond Water Valve 1 Status
C2CHWV-S	Chill Water Valve 2 Status
C2CWV-S	Cond Water Valve 2 Status
C3CHWV-S	Chill Water Valve 3 Status
CD-C	Combustion Damper Command
CD-P	Cold Deck Static Pressure
CD-S	Combustion Damper Status
CD-T	Cold Deck Temperature
CH1-AMP	Chiller 1 Current
CH1-EN	Chiller 1 Enable
CH2-AMP	Chiller 2 Current
CH2-EN	Chiller 2 Enable
CH3-AMP	Chiller 3 Current
CH3-EN	Chiller 3 Enable
CHWP1-C	Chill Water Pump 1 Status
CHWP1-S	Chill Water Pump 1 Status
CHWP2-C	Chill Water Pump 2 Status
CHWP2-S	Chill Water Pump 2 Status
CHWP3-C	Chill Water Pump 3 Status
CHWP3-S	Chill Water Pump 3 Status
CHWR-T	Chill Water Return Temp
CHWS-T	Chill Water Supply Temp
CLG1-C	Cooling Stage 1 Command
CLG2-C	Cooling Stage 2 Command
CLG3-C	Cooling Stage 3 Command
CLG4-C	Cooling Stage 4 Command
CLG5-C	Cooling Stage 5 Command
CLG6-C	Cooling Stage 6 Command
CLG7-C	Cooling Stage 7 Command
CLG8-C	Cooling Stage 8 Command
CLG-A	Cooling Alarm
CLG-C	Cooling Output
CLG-O	Cooling Output
COMP1-C	Compressor 1 Command
COMP2-C	Compressor 2 Command
CP-C	Cooling Pump Command
CP-S	Cooling Pump Status
CT1-C	Cooling Tower 1 Command
CT1-HI	Cooling Tower 1 High Speed
CT1-LO	Cooling Tower 1 Low Speed
CT1-O	Cooling Tower 1 Output
CT1-S	Cooling Tower 1 Status
CT2-C	Cooling Tower 2 Command
CT2-HI	Cooling Tower 2 High Speed
CT2-LO	Cooling Tower 2 Low Speed
CT2-O	Cooling Tower 2 Output
CT2-S	Cooling Tower 2 Status
CTBYP-O	Cooling Tower Bypass Valve
CWP1-C	Cond Water Pump 1 Status
CWP1-S	Cond Water Pump 1 Status
CWP2-C	Cond Water Pump 2 Status
CWP2-S	Cond Water Pump 2 Status
CWR-T	Cond Water Return Temp
CWS-T	Cond Water Supply Temp
DA-P	Discharge Static Pressure
DAP-SP	Duct Static Pressure Setpoint
DA-T	Discharge Air Temperature
DAT-SP	Discharge Air Temperature Setpoint
DA-VP	Discharge Air Velocity Pressure
DC-A	Dual Cool Unit Alarm
EAD-C	Exhaust Air Damper Command
EA-H	Exhaust Air Humidity
EAHR-T	Exhaust Air After Heat Recovery Temp
EA-T	Exhaust Air Temperature
EA-VP	Exhaust Air Velocity Pressure
EF/DC-EN	Exhaust Fan/Dual Cool Unit Enable
EF1-C	Exhaust Fan 1 Command
EF1-S	Exhaust Fan 1 Status
EF2-C	Exhaust Fan 2 Command
EF2-S	Exhaust Fan 2 Status
EF-C	Exhaust Fan Command
EF-O	Exhaust Fan Output
EF-S	Exhaust Fan Status
EXH-O	Exhaust Air Damper
FAN-C	Fan Command
FAN-O	Fan Output
FBD-O	Face-Bypass Damper Output
FLT-S	Filter Status
GLS-T	Glycol Loop Supply Temperature
GLYP1-C	Glycol Pump 1 Command
GLYP1-S	Glycol Pump 1 Status
GLYP2-C	Glycol Pump 2 Command
GLYP2-S	Glycol Pump 2 Status
GLYR-T	Glycol Return Temperature
GLYS-T	Glycol Supply Temperature
GLYV-O	Glycol Valve Output
HC-C	Heating/Cooling Command
HC-O	Heating/Cooling Output
HD-O	Hot Deck Damper Output
HD-P	Hot Deck Static Pressure
HD-T	Hot Deck Temperature
HD-VP	Hot Deck Velocity Pressure
HR-O	Heat Recovery Output
HRP-C	Heat Recovery Pump Command
HRP-S	Heat Recovery Pump Status
HR-T	Heat Recovery Temperature
HTG1-C	Heating Stage 1 Command
HTG2-C	Heating Stage 2 Command
HTG3-C	Heating Stage 3 Command
HTG4-C	Heating Stage 4 Command
HTG5-C	Heating Stage 5 Command
HTG6-C	Heating Stage 6 Command
HTG7-C	Heating Stage 7 Command
HTG8-C	Heating Stage 8 Command
HTG-A	Heating Alarm
HTG-C	Heating Command
HTG-O	Heating Output
HUM-C	Humidifier Command
HUM-O	Humidifier Output
HW-DP	Hot Water Diff Pressure
HWP1-C	Hot Water Pump 1 Command
HWP1-O	Hot Water Pump 1 Output
HWP1-S	Hot Water Pump 1 Status
HWP2-C	Hot Water Pump 2 Command
HWP2-O	Hot Water Pump 2 Output
HWP2-S	Hot Water Pump 2 Status
HWP3-C	Hot Water Pump 3 Command
HWP3-S	Hot Water Pump 3 Status
HWR-T	Hot Water Return Temp
HWS-T	Hot Water Supply Temp
HWV-O	Hot Water Valve Output
HX-O	Heat Exchanger Output
HX-O1	Heat Exch Valve 1 Output
HX-O2	Heat Exch Valve 2 Output
MAD-O	Mixed Air Damper Output
MA-T	Mixed Air Temperature
OAD-C	Outside Air Damper Command
OAD-ES	Outside Air Damper End Switch
OA-H	Outside Air Humidity
OA-T	Outside Air Temperature
OCC-C	Occupied Command
PHFBD-O	Preheat Face-Bypass Damper Output
PH-O	Preheat Output
PHP-C	Preheat Pump Command
PHP-S	Preheat Pump Status
PH-T	Preheat Temperature
RAD-C	Return Air Damper Command
RA-H	Return Air Humidity
RA-Q	Return Air Quality
RA-T	Return Air Temperature
RA-VP	Return Air Velocity Pressure
RF-C	Return Fan Command
RF-O	Return Fan Output
RF-S	Return Fan Status
RH-O	Reheat Output
RVLV-C	Reversing Valve Command
SF-A	Supply Fan Alarm
SF-C	Supply Fan Command
SFH-C	Supply Fan HI Command
SFL-C	Supply Fan LO Command
SFM-C	Supply Fan MED Command
SF-O	Supply Fan Output
SF-S	Supply Fan Status
STM-P	Steam Pressure
SUPHTG-C	Supplemental Heating Command
SUPHTG-O	Supplemental Heating Output
W-C	Warmup Command
WC1-ADJ	Zone 1 Warmer/Cooler
WC2-ADJ	Zone 2 Warmer/Cooler
WC3-ADJ	Zone 3 Warmer/Cooler
WC4-ADJ	Zone 4 Warmer/Cooler
WC5-ADJ	Zone 5 Warmer/Cooler
WC6-ADJ	Zone 6 Warmer/Cooler
WC7-ADJ	Zone 7 Warmer/Cooler
WC8-ADJ	Zone 8 Warmer/Cooler
WC-ADJ	Warmer Cooler Adjustment
W-SP	Warmup Setpoint
ZN1HHTG1-C	Zone 1 Heating Stage 1
ZN1HTG2-C	Zone 1 Heating Stage 2
ZN1HTG-O	Zone 1 Heating Output
ZN1-O	Zone 1 Output
ZN1-T	Zone 1 Temperature
ZN2HHTG1-C	Zone 2 Heating Stage 1
ZN2HTG2-C	Zone 2 Heating Stage 2
ZN2HTG-O	Zone 2 Heating Output
ZN2-O	Zone 2 Output
ZN2-T	Zone 2 Temperature
ZN3HHTG1-C	Zone 3 Heating Stage 1
ZN3HTG2-C	Zone 3 Heating Stage 2
ZN3HTG-O	Zone 3 Heating Output
ZN3-O	Zone 3 Output
ZN3-T	Zone 3 Temperature
ZN4HHTG1-C	Zone 4 Heating Stage 1
ZN4HTG2-C	Zone 4 Heating Stage 2
ZN4HTG-O	Zone 4 Heating Output
ZN4-O	Zone 4 Output
ZN4-T	Zone 4 Temperature
ZN5HTG-O	Zone 5 Heating Output
ZN5-O	Zone 5 Output
ZN5-T	Zone 5 Temperature
ZN6HTG-O	Zone 6 Heating Output
ZN6-O	Zone 6 Output
ZN6-T	Zone 6 Temperature
ZN7HTG-O	Zone 7 Heating Output
ZN7-O	Zone 7 Output
ZN7-T	Zone 7 Temperature
ZN8HTG-O	Zone 8 Heating Output
ZN8-O	Zone 8 Output
ZN8-T	Zone 8 Temperature
ZN-CO2	Zone Carbon Dioxide
ZN-H	Zone Humidity
ZN-Q	Zone Air Quality
ZN-T	Zone Temperature
ZN-T/WC-ADJ	Zone Temp/Warmer Cooler
ZN-T/ZN-H	Zone Temp/Zone Humidity

POINTS LIST

AH-1, 2 & 3

	Type	Point	Description	Units	Trend	Alarm	Totalize
FEC2610	UI IN1	DA-T	Discharge Air Temperature	Deg F	X		
	UI IN2	DA-P	Discharge Static Pressure	In WC	X		
	UI IN3	PH-T	Preheat Temperature	Deg F	X		
	UI IN4						
	UI IN5						
	UI IN6						
	BI IN7	SF-S	Supply Fan Status	Off On	X	X	X
	BI IN8	RF-S	Return Fan Status	Off On	X	X	X
	NET STAT						
	BO OUT1	SF-C	Supply Fan Command	Off On	X		
	BO OUT2	RF-C	Return Fan Command	Off On	X		
	BO OUT3						
	CO OUT4	CLG-O	Cooling Output	%	X		
	CO OUT5	PH-O	Preheat Output	%	X		
	CO OUT6						
	CO OUT7						
	AO OUT8	MAD-O	Mixed Air Damper Output	%	X		
	AO OUT9	FAN-O	Fan Output	%	X		
Network Inputs	Software AO	DAT-SP	Discharge Air Temperature Setpoint	Deg F	X		
	Software AO	DAP-SP	Discharge Air Pressure Setpoint	In WC	X		
	Software AO	HTGUNOCC-SP	Heating Unoccupied Setpoint	Deg F	X		
	Software AO	CLGUNOCC-SP	Cooling Unoccupied Setpoint	Deg F	X		
	Software AO	OAD-MINPOS	Outdoor Air Damper Minimum Position	%	X		
	Software BO	ECON-EN	Economizer Enable	Off On	X		
	Software BO	PH-EN	Preheat Enable	Off On	X		
	Software BO	CLG-EN	Cooling Enable	Off On	X		
	Software MV	OCC-SCHEDULE	Occupied Schedule Command	Unocc Stby Occ	X		
	Software BO	UNITEN-MODE	Unit Enable Command	Shutdown Enable	X		
	Software MV	APP-MODE	Application Mode	App Mode	X		
	Software AO	OA-T	Outside Air Temperature	Deg F	X		
	Software AO	ZN-T	Zone Temperature	Deg F	X		
	Software AO	PHT-SP	Preheat Temperature Setpoint	Deg F	X		

AH-4 & 6

	Type	Point	Description	Units	Trend	Alarm	Totalize
FEC2610	UI IN1	DA-T	Discharge Air Temperature	Deg F	X		
	UI IN2	DA-P	Discharge Static Pressure	In WC	X		
	UI IN3	MA-T	Mixed Air Temperature	Deg F	X		
	UI IN4						
	UI IN5						
	UI IN6						
	BI IN7	SF-S	Supply Fan Status	Off On	X	X	X
	BI IN8	RF-S	Return Fan Status	Off On	X	X	X
	NET STAT						
	BO OUT1	SF-C	Supply Fan Command	Off On	X		
	BO OUT2	RF-C	Return Fan Command	Off On	X		
	BO OUT3						
	CO OUT4	CLG-O	Cooling Output	%	X		
	CO OUT5						
	CO OUT6						
	CO OUT7						
	AO OUT8	MAD-O	Mixed Air Damper Output	%	X		
	AO OUT9	FAN-O	Fan Output	%	X		
Network Inputs	Software AO	DAT-SP	Discharge Air Temperature Setpoint	Deg F	X		
	Software AO	DAP-SP	Discharge Air Pressure Setpoint	In WC	X		
	Software AO	HTGUNOCC-SP	Heating Unoccupied Setpoint	Deg F	X		
	Software AO	CLGUNOCC-SP	Cooling Unoccupied Setpoint	Deg F	X		
	Software AO	OAD-MINPOS	Outdoor Air Damper Minimum Position	%	X		
	Software BO	ECON-EN	Economizer Enable	Off On	X		
	Software BO	CLG-EN	Cooling Enable	Off On	X		
	Software MV	OCC-SCHEDULE	Occupied Schedule Command	Unocc Stby Occ	X		
	Software BO	UNITEN-MODE	Unit Enable Command	Shutdown Enable	X		
	Software MV	APP-MODE	Application Mode	App Mode	X		
	Software AO	OA-T	Outside Air Temperature	Deg F	X		
	Software AO	ZN-T	Zone Temperature	Deg F	X		

HX-1 & PUMP

	Type	Point	Description	Units	Trend	Alarm	Totalize
FEC2610	UI IN1	OA-T	Outside Air Temperature	Deg F	X		
	UI IN2	HWS-T	Hot Water Supply Temp	Deg F	X		
	UI IN3	HWR-T	Hot Water Return Temp	Deg F	X		
	UI IN4						
	UI IN5						
	UI IN6						
	BI IN7	HWP1-S	Hot Water Pump 1 Status	Off On	X	X	X
	BI IN8	HWP2-S	Hot Water Pump 2 Status	Off On	X	X	X
	NET STAT						
	BO OUT1	HWP1-C	Hot Water Pump 1 Command	Off On	X		
	BO OUT2	HWP2-C	Hot Water Pump 2 Command	Off On	X		
	BO OUT3						
	CO OUT4	HX-O1	Heat Exch Valve 1 Output	%	X		
	CO OUT5	HX-O2	Heat Exch Valve 2 Output	%	X		
	CO OUT6						
	CO OUT7						
	AO OUT8						
	AO OUT9						
Network Inputs	Software AO	HTGOATLOCKOUT-SP	Heating OA Temperature Lockout	Deg F	X		
	Software BO	SYSTEM-EN	System Enable	False True	X		
	Software BO	HWP-ROT	Hot Water Pump Rotate Now	False True	X		
	Software AO	HWP1-RUNTIME	Hot Water Pump 1 Runtime	Hrs	X		
	Software AO	HWP2-RUNTIME	Hot Water Pump 2 Runtime	Hrs	X		
	Software BO	HWP1-MS	HWP 1 Maintenance Switch	Off On	X		
	Software BO	HWP2-MS	HWP 2 Maintenance Switch	Off On	X		
	Software AO	HWS-SP	Hot Water Supply Temperature Setpoint	Deg F	X		

AH-1, 2 & 3:

SUPPLY FAN START/STOP: The supply fan will be started according to the schedule. If the supply fan status does not match the commanded value, an alarm will be generated. When the supply fan status indicates the fan started, the control sequence will be enabled.

RETURN FAN START/STOP: When the supply fan is started a command to the return fan will be sent. If the return fan status does not match the commanded value, an alarm will be generated.

STATIC PRESSURE CONTROL: The supply fan will modulate to maintain the discharge static pressure at setpoint.

RETURN FAN TRACKING: The return fan will modulate in conjunction with the supply fan. The return fan will lag the supply fan by a percentage differential.

DISCHARGE AIR CONTROL: The mixed air dampers, and the cooling valve will modulate in sequence to maintain the discharge air temperature at setpoint.

ECONOMIZER DRY BULB SWITCHOVER: When the shared outside air temperature is below the switchover setpoint, the economizer will be enabled. When the shared outside air temperature rises above the switchover setpoint plus a differential, the economizer will be disabled.

PREHEAT CONTROL: The preheat valve will modulate to maintain the preheat temperature at setpoint.

NIGHT SETBACK/NIGHT SETUP: When in "unoccupied" mode, the unit will cycle as necessary to maintain the shared night setback zone temperature at setpoint. A differential prevents the unit from cycling excessively.

SAFETY:
All of the safety devices are manual reset, the device that has tripped must be manually reset before restarting the air handling unit.
If a temperature low limit switch senses a temperature below setpoint the supply fan and return fan will be shutdown.
If a fire alarm shutdown contact is provided, the supply fan and return fan will be shutdown when triggered.
If a high static pressure switch located after the supply fan senses a discharge pressure that is greater than setpoint, the supply fan and return fan will be shutdown.

SHUTDOWN:
When the unit is shutdown by either a stop command or system safety the unit will be set as follows:
Supply fan will be off
Return fan will be off
Supply fan vfd will be commanded to 0%
Return fan vfd will be commanded to 0%
Outside air damper will close
Return air damper will open
Exhaust air damper will close
Preheat valve will remain in control
Cooling valve will close

AH-4 & 6:

SUPPLY FAN START/STOP: The supply fan will be started according to the schedule. If the supply fan status does not match the commanded value, an alarm will be generated. When the supply fan status indicates the fan started, the control sequence will be enabled.

RETURN FAN START/STOP: When the supply fan is started a command to the return fan will be sent. If the return fan status does not match the commanded value, an alarm will be generated.

STATIC PRESSURE CONTROL: The supply fan will modulate to maintain the discharge static pressure at setpoint.

RETURN FAN TRACKING: The return fan will modulate in conjunction with the supply fan. The return fan will lag the supply fan by a percentage differential.

DISCHARGE AIR CONTROL: The mixed air dampers, and the cooling valve will modulate in sequence to maintain the discharge air temperature at setpoint.

MIXED AIR LOW LIMIT OVERRIDE: The mixed air temperature will override the minimum position and close the outside air damper if a temperature is sensed below the setpoint.

ECONOMIZER DRY BULB SWITCHOVER: When the shared outside air temperature is below the switchover setpoint, the economizer will be enabled. When the shared outside air temperature rises above the switchover setpoint plus a differential, the economizer will be disabled.

NIGHT SETBACK/NIGHT SETUP: When in "unoccupied" mode, the unit will cycle as necessary to maintain the shared night setback zone temperature at setpoint. A differential prevents the unit from cycling excessively.

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Supply fan vfd will be commanded to 0%
Return fan vfd will be commanded to 0%
Outside air damper will close
Return air damper will open
Exhaust air damper will close
Preheat valve will remain in control
Cooling valve will close

PENTHOUSE HX & PUMP CONTROL:

HOT WATER PUMP CONTROL: The hot water pump with the lowest runtime will automatically start when the outside air temperature falls below the system enable setpoint. When the outside air temperature rises above this setpoint, the hot water pumps will turn off. When enabled, the lead pump will start and run continuously. If for any reason its status does not match its commanded value an alarm will be generated. The lag pump will start if the lead pump is in alarm.

HEAT EXCHANGER VALVE CONTROL: The heat exchanger valve will modulate to maintain the hot water supply temperature at a setpoint that is reset inversly to the outside air temperature when either one of the hot water pumps has a status of on.

SEQUENCE OF OPERATION

System Enable
- The supply fan shall be started by the Metasys Direct digital controller (DDC) once proof of the outdoor air dampers being open, based on a time schedule, an occupancy override from a VAV box or when EF is running.
- The DDC shall monitor the status of the supply fan.
- The DDC will monitor the smoke detector status in the supply air. If any one detector goes into alarm, the DDC will shutdown the fans.

Discharge Air Temperature Control
- The DDC will sense the discharge air temperature and will adjust the heating valve, cooling valve and DX coil to maintain the discharge air temperature set point which shall be reset based on zone temperatures.

Filter Monitoring
- The DDC will monitor differential pressure across the filters and will create an alarm if the pressure rises above the set points of +0.75"WG (adjustable).

VFD Control
- The DDC will monitor the supply static pressures and will modulate the supply fan variable speed drive to maintain a supply static set point.

Unoccupied Control
- In unoccupied mode the supply, return and general exhaust fans are off.

VAV with Re-heat

System Enable:
- Based on time schedule and temporary occupancy override buttons. Temporary occupancy override shall last 3 hours (adj.).

Room Temperature Control:
- The controller shall take the input from network room sensor and control the unit to maintain the following setpoint:
  Occupied Room Temperature
  - Heating: 70°F; allowable range: 55°F to 85°F.
  - Cooling: 75°F; allowable range: 55°F to 85°F.
  Unoccupied Room Temperature
  - Heating: 60°F; allowable range: 55°F to 85°F.
  - Cooling: 80°F; allowable range: 55°F to 85°F.
  - Deadband: Plus or Minus 2°F; allowable range: 0°F to 5°F.
- Allowable deviation above cooling setpoint or below heating setpoint before alarm: 4°F; allowable range: 1°F to 10°F.
- When in occupied mode the air handling/exhaust fan units shall be commanded to run continuously.
- When in unoccupied mode and the room temperature of the zone is above the unoccupied cooling setpoint plus the deadband or below the unoccupied heating minus the deadband the air handling/exhaust fan units shall be commanded to run. When the desired temperature is reached the air handling/exhaust units shall be signaled that it is no longer needed for this zone, but will continue to run if the temperature of other zones is not satisfied.

Damper Control:
- The damper shall be modulated to maintain airflow setpoint. Adjust airflow setpoint to maintain cooling setpoint temperature subject to maximum and minimum airflow limits of the equipment. For VAV boxes that use damper position in a static pressure setpoint reset optimization strategy, close the damper each day at midnight to re-zero the damper position indicator and then reopen to last position and resume normal control.

Re-heat Coil Valve Control:
- The reheat coil valve shall be modulated to maintain the heating/cooling setpoints.

VAV Cooling Only

General
- Run Conditions - The unit shall run according to a user definable time schedule or temporary occupancy override buttons.

Temperature Control
- The VAV damper shall modulate to minimum position upon fall in space temperature below setpoint and modulate open rise in space temperature above setpoint.
- Temperature setpoint shall be as follows:
  - Cooling setpoint – 75°F (adj.).
  - Heating setpoint – 70°F (adj.).

Alarms
- High space temperature alarm.
- Low space temperature alarm.

Exhaust Fans (Existing)

General
- Controlled locally by light switch, monitored by EMS.

General Exhaust Fans

General
- Interlocked to run whenever AH is running when required.

Room Pressure Control
- Room pressure shall be controlled by modulating in the return fan/ general exhaust (RF/EF) VFD's.

Alarms
- Alarm if room pressure can not be maintained. Provide separate high and low alarms along with adjustable time delay. Alarms shall be announced locally with visual and audible display and over the N2 network.

1 ENERGY MANAGEMENT SYSTEM (EMS)
SCALE: NTS

Revisions: Date

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