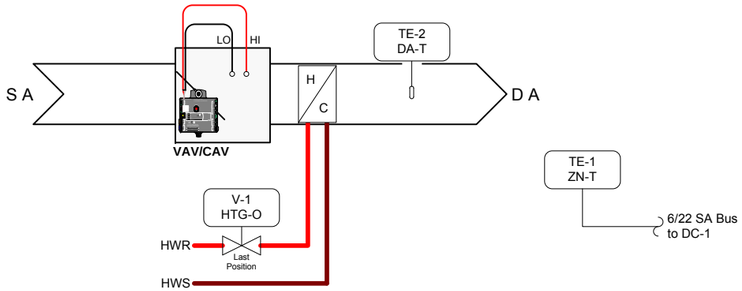
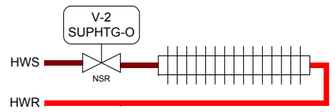
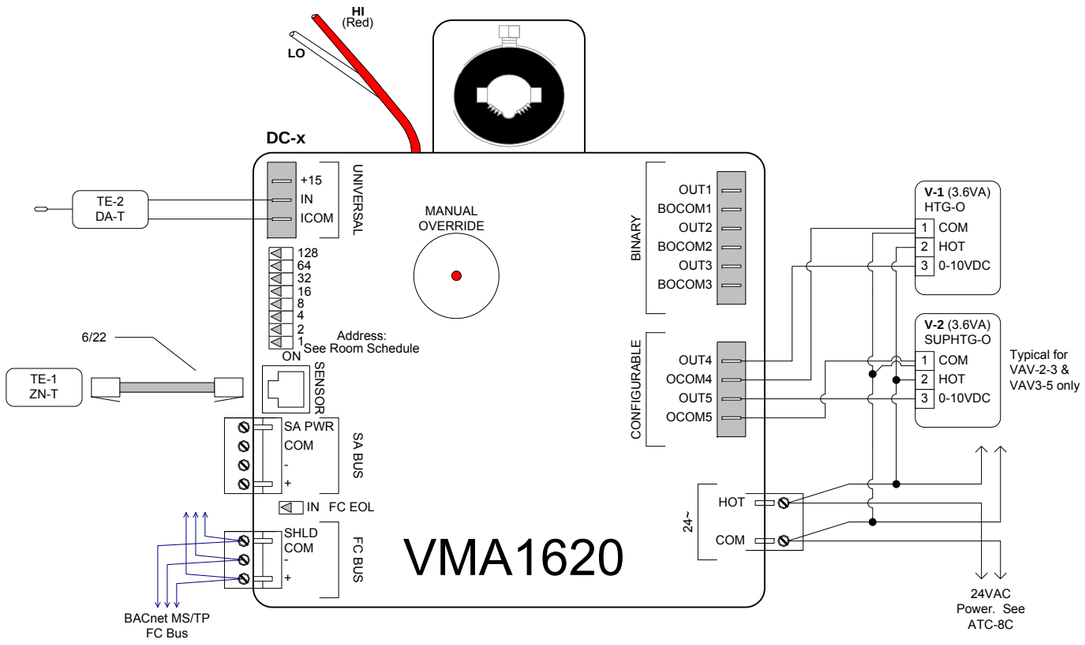


Supplemental Heating
(Typical for 2)





VAV/CAV Detail

BILL OF MATERIALS

TAG	QTY	MFG/VNDR	PART #	DESCRIPTION
PANEL DEVICES:				
DC-x	20	JCI	MS-VMA1620-0	VAV CNTRLR, ACT, PRESS SENSOR
PP-1~5	5	HOFFMAN	ASE10X10X4	10"X10"X4" SCREW COVER ENCLOSURE
XFR-1~5	5	JCI	Y64T15-0	XFMR, 92VA, 120VAC PRI, 24VAC SECOND
FIELD DEVICES:				
TE-1	20	JCI	NS-BTV7001-0	NET WALL SENSOR, STPT, LCD, MJ, SA BUS
TE-2	20	JCI	TE-631GV-1	DUCT TEMP SENSOR, 1KΩNI
V-1	15	JCI		SEE VALVE SCHEDULE
V-2	2	JCI		SEE VALVE SCHEDULE

SEQUENCE OF OPERATION

Typical Variable Volume Boxes:

VAV boxes operate on an occupied / unoccupied time schedule.

Occupied Mode:
On a call for cooling, the VAV damper modulates from minimum to maximum position to maintain the space temperature setpoint. On a call for heating, VAV damper modulates from maximum to minimum position to maintain room temperature setpoint. Once damper is at minimum position and temperature is still below setpoint the radiation valve (where applicable) will modulate to maintain room temperature setpoint. If additional heating is needed the reheat valve will modulate as needed.

Unoccupied Mode:
The unit will run as described above in the occupied mode to maintain a night setback temperature.

Typical Constant Volume Boxes:

VAV boxes operate on an occupied / unoccupied time schedule.

Occupied Mode:
VAV damper will modulate to maintain a constant CFM setpoint. On a call for heating, the reheat valve will modulate as needed to maintain the room temperature setpoint.

Unoccupied Mode:
VAV damper will modulate to maintain a constant CFM setpoint. On a call for heating, the reheat valve will modulate as needed to maintain a night setback room temperature setpoint.

Alarms: If any of the following conditions occur an alarm is generated at the EMS System:

1. If room temperature is +/-10°F from setpoint for 10 minutes.
2. If the airflow rate is +/-10% from setpoint for 10 minutes.

NO.	Date	Revision Record

EMC SERVICES
116 Budlong Road
Cranston, Rhode Island 02920

Mechanical Contractor
Address
City, State

Customer
Address
City, State

JOB NUMBER: 10-370	SCALE: NTS	DRAWN BY: P. Braga	
		APPROVED BY: W. Roskowski	
FILE: **VAV Detail.vsd**			
DATE: 04/13/12	DRAWING NUMBER: **ATC-8**		

Submittal		Point Information			Controller Information								Intermediate Device		Field Device			
Tag	Point Type	System Name	Object Name	Expanded ID	Controller Type	Trunk Type	Trunk Nbr	Trunk Addr.	Cable Destination Bay/Terminal	DO Type	Module Type	Panel	Device	Location	Wiring /Tubing	Device	Location	Comment
		VAV/CAV			FEC VMA							N/A						Power to Controller
		VAV/CAV			FEC VMA	MS/TP	1	4				N/A						BacNet FC Bus
	UI IN-1	VAV/CAV	DA-T	Discharge Air Temperature	FEC VMA	MS/TP	1	4	UI IN-1			N/A			2/18	TE-6300 (1kΩ Ni)		
	BO OUT-1	VAV/CAV			FEC VMA	MS/TP	1	4	BO OUT-1			N/A						
	BO OUT-2	VAV/CAV			FEC VMA	MS/TP	1	4	BO OUT-2			N/A						
	BO OUT-3	VAV/CAV			FEC VMA	MS/TP	1	4	BO OUT-3			N/A						
	CO OUT-4	VAV/CAV	HTG-O	Heating Valve Output	FEC VMA	MS/TP	1	4	CO OUT-4			N/A			4/18	0-10VDC		
	CO OUT-5	VAV/CAV	SUPHTG-O	Supplemental Heating Output	FEC VMA	MS/TP	1	4	CO OUT-5			N/A			4/18	0-10VDC		
		VAV/CAV			NET STAT							N/A						
		VAV/CAV			NET STAT	SA Bus	1	199				N/A						BacNet SA Bus
	STAT	VAV/CAV	ZN-T	Zone Temperature	NET STAT	SA Bus	1	199	STAT			N/A			4/22	SA Bus		