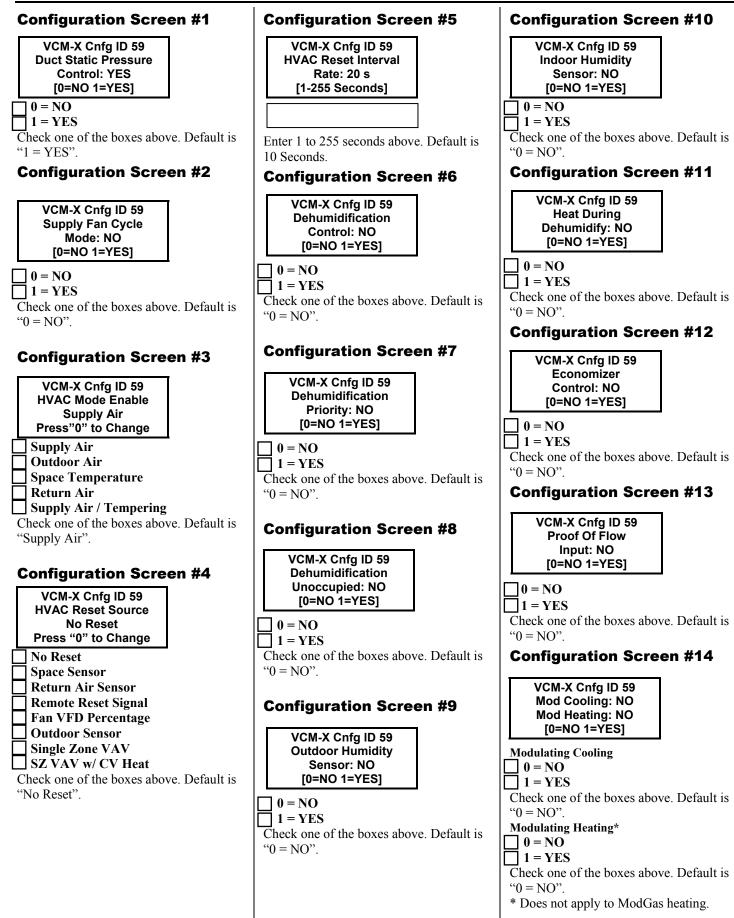
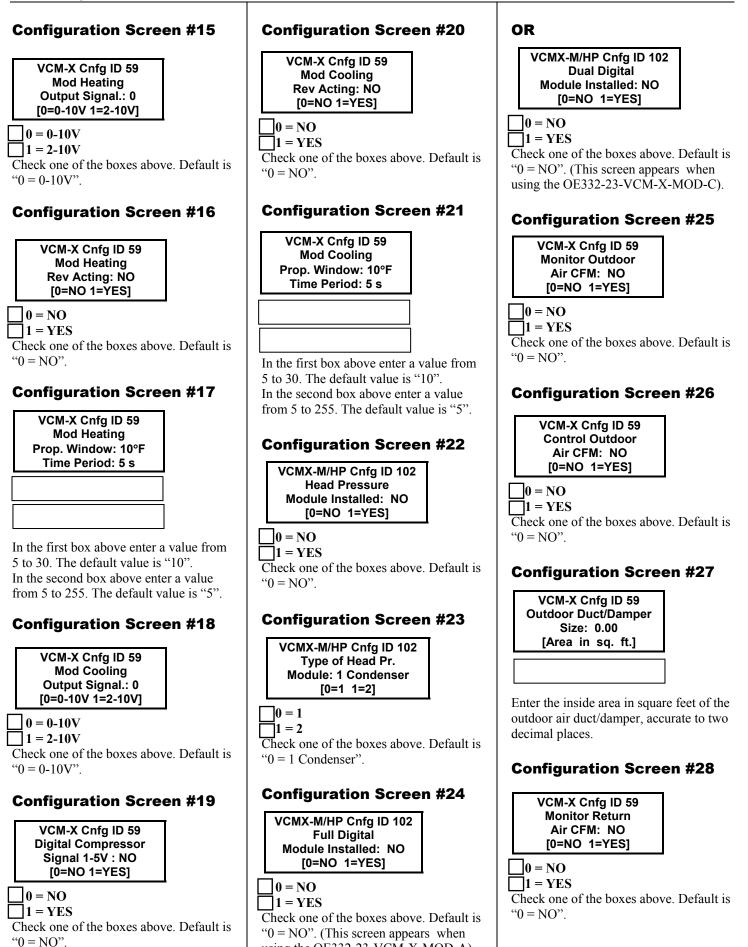


WattMaster Controls Inc. 8500 NW River Park Drive Parkville, Mo 64152 Phone: 816-505-1100 Fax: 816-505-1101 Toll Free: 866-918-1100

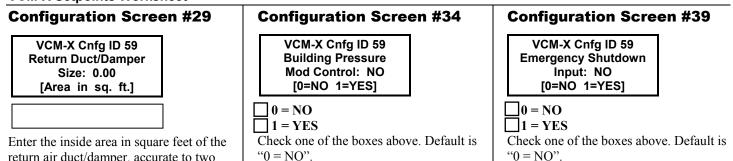
# VCM-X Controller - Configuration & Setpoints Worksheet

Filled Out By:	Date:	-
Job Name:		_
Job Location:		
Engineer:	Contractor:	_
Service Contact:	Controls Contact :	
Enter The Unit Tag Numbers For The HVAC U To Be Configured Per This Setpoint Worksheet	nits :	
	Form: VCM-X-ConfigSetpoints-1F-Inter.PDF Date: 03-10-14	



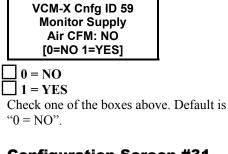


using the OE332-23-VCM-X-MOD-A).

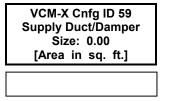


return air duct/damper, accurate to two decimal places.

## **Configuration Screen #30**

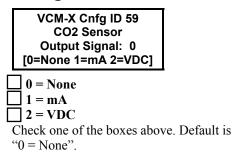


## **Configuration Screen #31**



Enter the inside area in square feet of the supply air duct/damper, accurate to two decimal places.

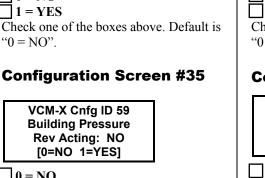
## **Configuration Screen #32**



## **Configuration Screen #33**

VCM-X Cnfg ID 59 CO2 Sensor Maximum Scale: 2000 PPM Enter 0 If No Sensor

Enter a value from 0 to 20000. The default value is "2000" and is based on the sensor you are using. Enter "2000" if you are using the AAON or WattMaster  $CO_2$  Sensor.



0 = NO1 = YES

Check one of the boxes above. Default is "0 = NO".

## **Configuration Screen #36**

VCM-X Cnfg ID 59 Building Pressure Output Signal: 0 [0=0-10V 1=2-10V]

0 = 0-10V 1 = 2-10VCheck one of the boxes above. Default is
"0 = 0-10V".

## **Configuration Screen #37**

VCM-X Cnfg ID 59		
Heat Pump		
Control: NO		
[0=NO 1=YES]		

 $\Box 0 = NO$  $\Box 1 = YES$ Check one of the boxes above. Default is "0 = NO".

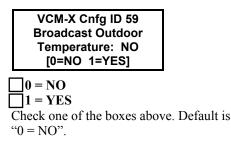
## **Configuration Screen #38**

VCM-X Cnfg ID 59 Rev. Valve Active For: Heat [0=Heat 1=Cool] 0 = Heat 1 = Cool Check one of the boxes above. Default is "0 = Heat".

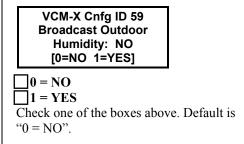
# Check one of the boxes above. Default "0 = NO". Configuration Screen #40

VCM-X Cnfg ID 59<br/>Return Air Bypass<br/>Control: NO<br/>[0=NO 1=YES]0 = NO= YESCheck one of the boxes above. Default is<br/>"0 = NO".

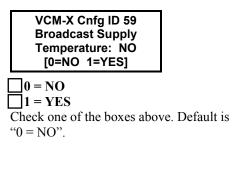
## **Configuration Screen #41**



## **Configuration Screen #42**



## **Configuration Screen #43**



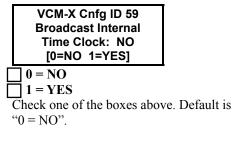
#### **Configuration Screen #44**

VCM-X Cnfg ID 59 Broadcast Status Fan & Heat: NO [0=NO 1=YES]

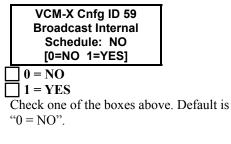
#### 0 = NO

1 = YESCheck one of the boxes above. Default is "0 = NO".

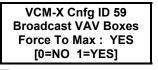
## **Configuration Screen #45**



## **Configuration Screen #46**

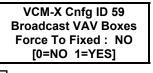


## **Configuration Screen #47**



0 = NO 1 = YESCheck one of the boxes above. Default is
"1 = YES".

## **Configuration Screen #48**



0 = NO1 = YES

Check one of the boxes above. Default is "0 = NO".

## **Configuration Screen #49**

VCM-X Cnfg ID 59 1 HVAC Unit w/ Boxes On Multiple Loops: NO [0=NO 1=YES]

#### 0 = NO

 $\Box 1 = YES$ 

Check one of the boxes above. Default is "0 = NO".

## **Configuration Screen #50**

VCM-X Cnfg ID 59
Unit Uses R410A
Refrigerant: NO
[0=NO 1=YES]

### 0 = NO

] 1 = YES

Check one of the boxes above. Default is "0 = NO".

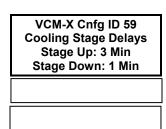
## **Configuration Screen #51**

VCM-X Cnfg ID 59 Max Main Fan Aout Voltage: XX.X VDC

This screen will appear if you are using a VCM-X Modular Controller (OE332-23-VCMX-MOD-A or OE332-23-VCMX-MOD-C) or a VCM-X WSHP Controller (OE332-23-VCMX-WSHP-A or OE332-23-VCMX-WSHP-C).

In the box above enter a value from 0 to 10. This is the maximum voltage that the Analog Output for the Fan VFD will reach. Default = "10.0 VDC".

## **Configuration Screen #52**



In the first box above enter a value from 3 to 15. The default value is "3". In the second box above enter a value from 1 to 15. The default value is "1".

## **Configuration Screen #53**

VCM-X Cnfg ID 59 Cooling Stage Delays Min Run Time: 5 Min Min Off Time: 3 Min

In the first box above enter a value from 3 to 15. The default value is "5". In the second box above enter a value from 1 to 15. The default value is "3".

## **Configuration Screen #54**

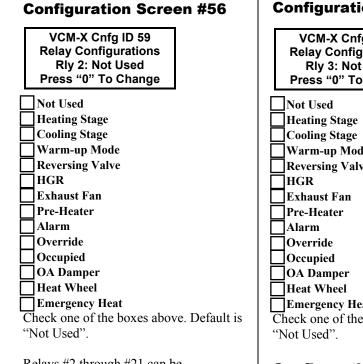
VCM-X Cnfg ID 59 Heating Stage Delays Stage Up: 3 Min Stage Down: 1 Min

In the first box above enter a value from 3 to 15. The default value is "3". In the second box above enter a value from 1 to 15. The default value is "1".

## **Configuration Screen #55**

VCM-X Cnfg ID 59 Heating Stage Delays Min Run Time: 2 Min Min Off Time: 1 Min

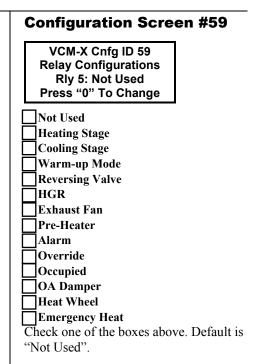
In the first box above enter a value from 2 to 15. The default value is "2". In the second box above enter a value from 1 to 15. The default value is "1".



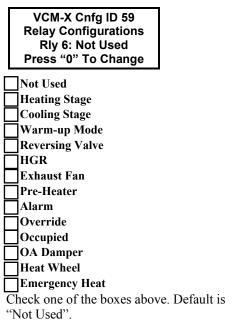
Relays #2 through #21 can be individually configured. By using the 4 relay outputs available on the VCM-X Controller the 4 relays on the VCM-X Expansion Module, and the 12 Relays on the 12 Relay Expansion Module, you have the ability to configure up to a combined total of 20, Heating Stages, cooling stages, and the other options listed above. Only the Heating and Cooling relays can be configured with multiple outputs. If any other option is selected more than once, it will simply activate redundant relays but no multiple staging will occur.

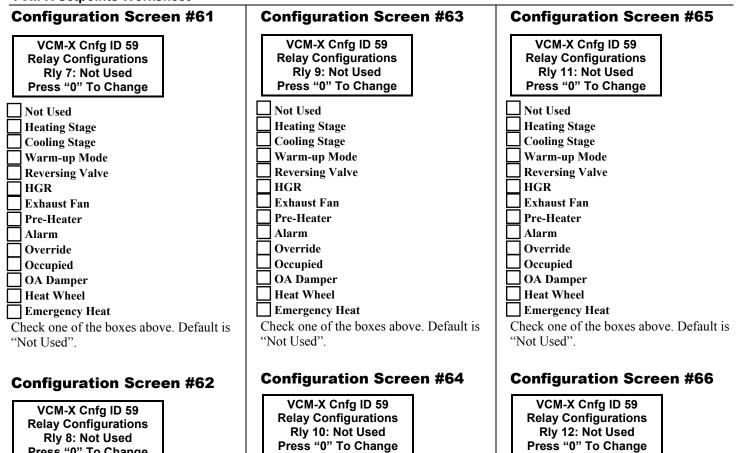
#### Configuration Screen #57 VCM-X Cnfg ID 59 Relay Configurations Rly 3: Not Used Press "0" To Change Not Used Heating Stage Cooling Stage Warm-up Mode Reversing Valve HGR Exhaust Fan Pre-Heater Alarm Override Occupied OA Damper Heat Wheel Emergency Heat Check one of the boxes above. Default is "Not Used". Configuration Screen #58 VCM-X Cnfg ID 59 Relay Configurations Rly 4: Not Used

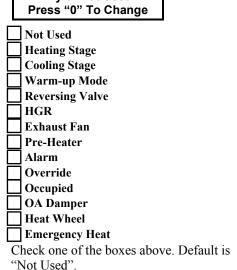
Rly 4: Not Used Press "0" To Change Not Used **Heating Stage** Cooling Stage Warm-up Mode **Reversing Valve** HGR Exhaust Fan Pre-Heater Alarm Override Occupied OA Damper Heat Wheel Emergency Heat Check one of the boxes above. Default is "Not Used".



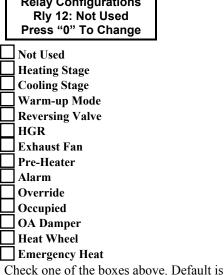
## **Configuration Screen #60**



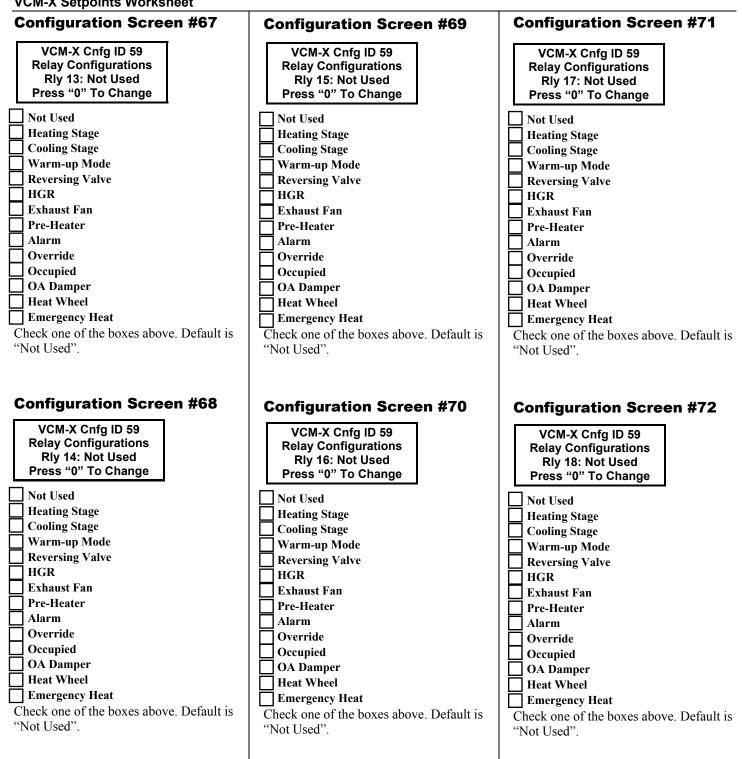


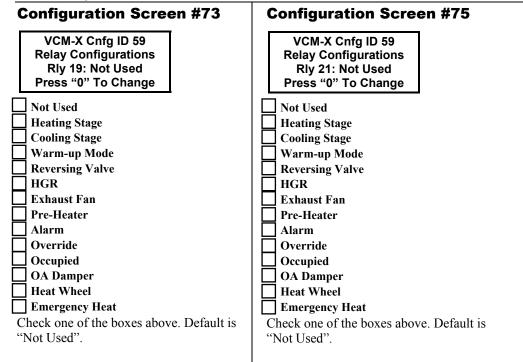


Not Used **Heating Stage Cooling Stage** Warm-up Mode **Reversing Valve** HGR **Exhaust Fan Pre-Heater** Alarm Override Occupied **OA Damper Heat Wheel Emergency Heat** Check one of the boxes above. Default is "Not Used".

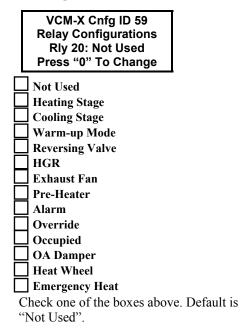


"Not Used".





## **Configuration Screen #74**

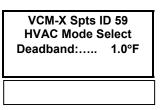


#### **Setpoint Screen #1**

VCM-X Spts ID 59 HVAC Mode Setpoints Cooling: 75°F Heating: 70°F	

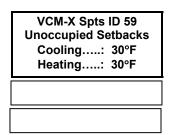
In the first box above enter a value from 0 to 99. The default value is "75". In the second box above enter a value from 0 to 99. The default value is "70".

## Setpoint Screen #2



In the box above enter a value from 0 to 10. The default value is "1.0".

## Setpoint Screen #3

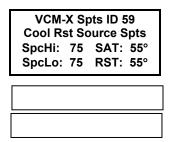


In the first box above enter a value from 0 to 30. The default value is "30". In the second box above enter a value from 0 to 30. The default value is "30".

#### **Setpoint Screen #4**

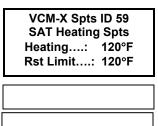
If no Reset Source has been configured in Configuration Screen #4, then this setpoint will be the SAT Cooling Setpoint. Line 4 will be blank. If a Reset Source has been configured in Configuration Screen #4, then Line 4 will read Rst Limit. In the first box above enter a value from 40 to 80. The default value is "55". In the second box above enter a value from 40 to 150. The default value is "55".

## **Setpoint Screen #5**



If no Reset Source has been configured in Configuration Screen #4, then this screen will read Cool Rst Not Config and will not be used. If a Reset Source has been configured in Configuration Screen #4, then the names of the values on the left side of this screen will correspond to the Reset Source that was configured. The screen will then allow you to input the upper and lower limits for the range of values of the Reset Source on the left side of the screen and will show the corresponding Cooling Supply Air SAT and Rst Limit Values that were entered on Setpoint Screen #4.

#### **Setpoint Screen #6**



If no Reset Source has been configured in Configuration Screen #4, then this setpoint will be the SAT Heating Setpoint. Line 4 will be blank. If a Reset Source has been configured in Configuration Screen #4, then Line 4 will read Rst Limit. In the first box above enter a value from 40 to 200. The default value is "120". In the second box above enter a value from 40 to 200. The default value is "120".

## Setpoint Screen #7

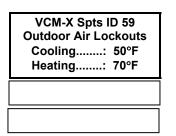
VCM-X Spts ID 59 Heat Rst Source Spts				
SpcHi:	70	SAT: 120°		
SpcLo:	70	RST: 120°		

If no Reset Source has been configured in Configuration Screen #4, then this screen will read Heat Rst Not Config and will not be used. If a Reset Source has been configured in Configuration Screen #4, then the names of the values on the left side of this screen will correspond to the Reset Source that was configured. The screen will then allow you to input the upper and lower limits for the range of values of the Reset Source on the left side of the screen and will show the corresponding Heating Supply Air SAT and Rst Limit Values that were entered on Setpoint Screen #4.

#### Setpoint Screen #8

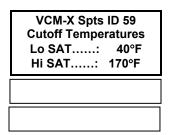
In the first box above enter a value from 1 to 20. The default value is "5". In the second box above enter a value from 1 to 20. The default value is "5".

## Setpoint Screen #9



In the first box above enter a value from 0 to 100. The default value is "50". In the second box above enter a value from 50 to 150. The default value is "70".

## Setpoint Screen #10



In the first box above enter a value from 0 to 250. The default value is "40". In the second box above enter a value from 0 to 250. The default value is "170".

## Setpoint Screen #11



In the box above enter a value from 0 to 100. The default value is "30".

#### Setpoint Screen #12

VCM-X Spts ID 59 Morning WarmUp Target Temp:  72°F		
Max Length: 60 Min		

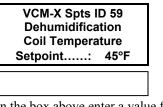
In the first box above enter a value from 50 to 90. The default value is "72". In the second box above enter a value from 0 to 240. The default value is "60".

## Setpoint Screen #13

VCM-X Spts ID 59 Dehumidification Spt Indoor RH.....: 50% OA Dewpoint...: 55°F

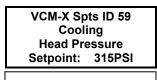
In the first box above enter a value from 1 to 100. The default value is "50". In the second box above enter a value from 35 to 80. The default value is "55".

## **Setpoint Screen #14**



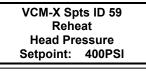
In the box above enter a value from 35 to 70. The default value is "45".

#### **Setpoint Screen #15**



In the box above, enter a value from 250 to 400. The default value is "315". This value is based on the highest head pressure reading of up to 4 Head Pressure Sensors.

#### Setpoint Screen #16



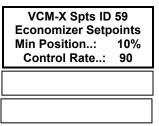
In the box above, enter a value from 250 to 400. The default value is "400". This value is based on the highest head pressure reading of up to 4 Head Pressure Sensors.

## Setpoint Screen #17

VCM-X Spts ID 59 Economizer Setpoints OAT/WB Enable..: 55°F

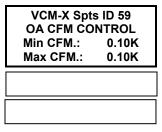
In the box above enter a value from 0 to 80. The default value is "55".

## **Setpoint Screen #18**



In the first box above enter a value from 0 to 100. The default value is "10". In the second box above enter a value from 10 to 99. The default value is "90".

## Setpoint Screen #19



In the first box above enter a value from 0 to 200. The default value is "0.10". In the second box above enter a value from 0 to 200. The default value is "0.10". K=1000

## Setpoint Screen #20

VCM-X Spts ID 59 OA CFM CONTROL OA CFM DB: 10CFM

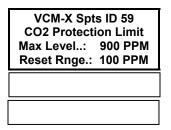
In the box above enter a value from 0 to 1000. The default value is "10".

## Setpoint Screen #21

VCM-X Spts ID 59 Maximum Economizer Position If High CO2 Level Occurs: 100%

In the box above enter a value from 0 to 100. (Note the minimum is whatever value you set for Economizer Min. Position on Screen 18 above).The default value is "100".

## Setpoint Screen #22



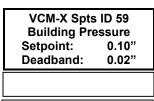
In the first box above enter a value from 0 to 3000. The default value is "900". In the second box above enter a value from 0 to 1500. The default value is "100".

## Setpoint Screen #23

VCM-X Spts ID 59	
Static Spt:	0.50"
Deadband:	0.10"
Control Rate	: 10 s

In the first box above enter a value from 0.10 to 3.0. The default value is "0.50". In the second box above enter a value from 0.01 to 1.0. The default value is "0.10". In the third box above enter a value from 1 to 30. The default value is 10.

#### **Setpoint Screen #24**



In the first box above enter a value from -0.20 to 0.20. The default value is "0.10". In the second box above enter a value from 0.01 to 0.10. The default value is "0.02".

## **Setpoint Screen #25**

VCM-X Spts ID 59 Return Air Bypass Damper Factor Setpoint...: 40%

In the box above enter a value from 0 to 100. The default value is "40".

## Setpoint Screen #26

VCM-X Spts ID 59 Fan Starting Delay Timer....: 255 s

In the box above enter a value from 0 to 255. The default value is "255".

## Setpoint Screen #27

VCM-X Spts ID 59 Mechanical Heat/Cool Failures Occur After No Change For: 15 Min

In the box above enter a value from 0 to 255. The default value is "15".

#### Setpoint Screen #28

VCM-X Spts ID 59 Preheat / Low Ambient Temperature: Setpoint: 0°F

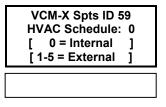
In the box above enter a value from 0 to 100. The default value is "0".

## **Setpoint Screen #29**

VCM-X Spts ID 59 Max OA Damper Tempering Limit Setpoint: 50%

In the box above enter a value from 0 to 60. The default value is "50".

## Setpoint Screen #30



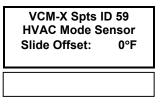
In the box above enter a value from 0 to 5. The default value is "0".

#### Setpoint Screen #31

VCM-X Spts ID 59 Push-Button Override Duration....: 2.0 Hr

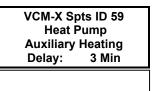
In the box above enter a value from 0 to 8.0. The default value is "2.0".

#### Setpoint Screen #32

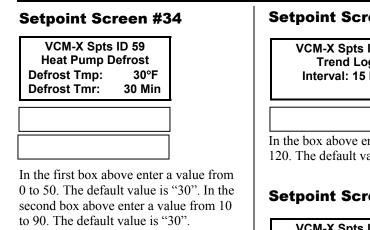


In the box above enter a value from 0 to 10. The default value is "0".

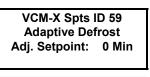
## Setpoint Screen #33



In the box above enter a value from 0 to 30. The default value is "3".



## Setpoint Screen #35



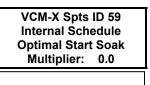
In the box above enter a value from 0 to 30. The default value is "0".

## **Setpoint Screen #36**

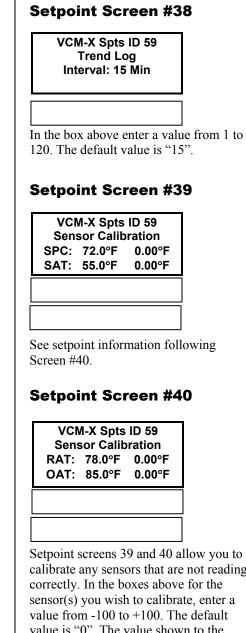


In the box above enter a value from 0 to 50. The default value is "30".

## Setpoint Screen #37



In the box above enter a value from 0.0 to 5.0. The default value is "0.0".



Setpoint screens 39 and 40 allow you to calibrate any sensors that are not reading sensor(s) you wish to calibrate, enter a value is "0". The value shown to the immediate right of the sensor designation (SPC:, SAT:, RAT:, OAT:) is the actual temperature the sensor is reading plus the offset temperature amount you have entered. The far right value indicates the amount of calibration offset you have entered for that sensor.

## Setpoint Screen #41

VCM-X Spts ID 59 **Sensor Calibration** COIL: XX.X°F 0.00°F

## Setpoint screen 41 allows you to calibrate the COIL sensor if it is not reading correctly. In the box above, enter a value from -30 to +30. The default value is "0". The value shown to the immediate right of the sensor designation is the actual temperature the sensor is reading plus the offset temperature amount you have entered. The far right value indicates the amount

of calibration offset you have entered for the sensor.