VCM Controller Setpoints Worksheet

Filled Out By: ____________________________  Date: __________

Job Name: __________________________________________________________________________

Job Location:
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

Engineer: ____________________________  Contractor: ____________________________

Service Contact: ____________________________  Controls Contact: ____________________________

Enter The Unit Tag Numbers For The HVAC Units
To Be Configured Per This Setpoint Worksheet:
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VCM Setup

Configuration Screen #1

☐ 0 = NO
☐ 1 = YES
Check one of the boxes above. Default is “1 = YES”.

Configuration Screen #2

☐ 0 = NO
☐ 1 = YES
Check one of the boxes above. Default is “0 = NO”.

Configuration Screen #3

☐ Supply Air
☐ Outdoor Air
☐ Space Temperature
☐ Return Air
Check one of the boxes above. Default is “Supply Air”.

Configuration Screen #4

☐ Supply Air Mode
☐ Outdoor Air Mode
☐ Space Temperature
☐ Return Air Mode
Press “0” to Change
Check one of the boxes above. Default is “0 = NO”.

Configuration Screen #5

VCM Cnfg ID 59
Duct Static Pressure
Control: YES
[0=NO 1=YES]

Configuration Screen #6

VCM Cnfg ID 59
HVAC Reset Source
Loop Rate: 20 s
[1-255 Seconds]

Enter 1 to 255 seconds above. Default is 10 Seconds.

Configuration Screen #7

VCM Cnfg ID 59
Dehumidification
Control: NO
[0=NO 1=YES]

☐ 0 = NO
☐ 1 = YES
Check one of the boxes above. Default is “0 = NO”.

Configuration Screen #8

VCM Cnfg ID 59
Dehumidification
Priority: NO
[0=NO 1=YES]

☐ 0 = NO
☐ 1 = YES
Check one of the boxes above. Default is “0 = NO”.

Configuration Screen #9

VCM Cnfg ID 59
Outdoor Humidity
Sensor: NO
[0=NO 1=YES]

☐ 0 = NO
☐ 1 = YES
Check one of the boxes above. Default is “0 = NO”.

Configuration Screen #10

VCM Cnfg ID 59
Indoor Humidity
Sensor: NO
[0=NO 1=YES]

☐ 0 = NO
☐ 1 = YES
Check one of the boxes above. Default is “0 = NO”.

Configuration Screen #11

VCM Cnfg ID 59
Heat During
Dehumidify: NO
[0=NO 1=YES]

☐ 0 = NO
☐ 1 = YES
Check one of the boxes above. Default is “0 = NO”.

Configuration Screen #12

VCM Cnfg ID 59
Economizer
Control: NO
[0=NO 1=YES]

☐ 0 = NO
☐ 1 = YES
Check one of the boxes above. Default is “0 = NO”.

Configuration Screen #13

VCM Cnfg ID 59
Proof Of Flow
Input: NO
[0=NO 1=YES]

☐ 0 = NO
☐ 1 = YES
Check one of the boxes above. Default is “0 = NO”.

Configuration Screen #14

VCM Cnfg ID 59
Mod Cooling: NO
Mod Heating: NO
[0=NO 1=YES]

Modulating Cooling
☐ 0 = NO
☐ 1 = YES
Check one of the boxes above. Default is “0 = NO”.

Modulating Heating
☐ 0 = NO
☐ 1 = YES
Check one of the boxes above. Default is “0 = NO”.
**Configuration Screen #15**

- **VCM Cnfg ID 59**
- **Mod Heating**
- **Output Signal:** 0
  
  - [0=0-10V 1=2-10V]

- Check one of the boxes above. Default is “0 = 0-10V”.

**Configuration Screen #16**

- **VCM Cnfg ID 59**
- **Mod Heating**
- **Rev Acting:** NO
  
  - [0=NO 1=YES]

- Check one of the boxes above. Default is “0 = NO”.

**Configuration Screen #17**

- **VCM Cnfg ID 59**
- **Mod Heating**
- **Prop. Window:** 10°F
  
  - Time Period: 5 s

- In the first box above enter a value from 5 to 30. The default value is “10”. In the second box above enter a value from 5 to 255. The default value is “5”.

**Configuration Screen #18**

- **VCM Cnfg ID 59**
- **Mod Cooling**
- **Output Signal:** 0
  
  - [0=0-10V 1=2-10V]

- Check one of the boxes above. Default is “0 = 0-10V”.

**Configuration Screen #19**

- **VCM Cnfg ID 59**
- **Digital Compressor**
- **Signal 1-5V:** NO
  
  - [0=NO 1=YES]

- Check one of the boxes above. Default is “0 = NO”.

**Configuration Screen #20**

- **VCM Cnfg ID 59**
- **Mod Cooling**
- **Rev Acting:** NO
  
  - [0=NO 1=YES]

- Check one of the boxes above. Default is “0 = NO”.

**Configuration Screen #21**

- **VCM Cnfg ID 59**
- **Mod Cooling**
- **Prop. Window:** 10°F
  
  - Time Period: 5 s

- In the first box above enter a value from 5 to 30. The default value is “10”. In the second box above enter a value from 5 to 255. The default value is “5”.

**Configuration Screen #22**

- **VCM Cnfg ID 59**
- **CO2 Sensor**
- **Output Signal:** 0
  
  - [0=None 1=mA 2=VDC]

- Check one of the boxes above. Default is “0 = None”.

**Configuration Screen #23**

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

- Enter a value from 0 to 8000. The default value is “2000” and is based on the sensor you are using. Enter “2000” if you are using the AAON or WattMaster CO2 Sensor.

**Configuration Screen #24**

- **VCM Cnfg ID 59**
- **Building Pressure**
- **Mod Control:** NO
  
  - [0=NO 1=YES]

- Check one of the boxes above. Default is “0 = NO”.

**Configuration Screen #25**

- **VCM Cnfg ID 59**
- **Building Pressure**
- **Rev Acting:** NO
  
  - [0=NO 1=YES]

- Check one of the boxes above. Default is “0 = NO”.

**Configuration Screen #26**

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

- Check one of the boxes above. Default is “0 = 0-10V”.

**Configuration Screen #27**

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

- Check one of the boxes above. Default is “0 = NO”.

**Configuration Screen #28**

- **VCM Cnfg ID 59**
- **Rev. Valve Active Control:** Heat
  
  - [0=Heat 1=Cool]

- Check one of the boxes above. Default is “0 = Heat”.
### Configuration Screen #29

VCM Cnfg ID 59
Smoke Detector
Input: NO
[0=NO 1=YES]

- 0 = NO
- 1 = YES

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

### Configuration Screen #30

VCM Cnfg ID 59
Return Air Bypass
Control: NO
[0=NO 1=YES]

- 0 = NO
- 1 = YES

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

### Configuration Screen #31

VCM Cnfg ID 59
Broadcast Outdoor
Temperature: NO
[0=NO 1=YES]

- 0 = NO
- 1 = YES

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

### Configuration Screen #32

VCM Cnfg ID 59
Broadcast Outdoor
Humidity: NO
[0=NO 1=YES]

- 0 = NO
- 1 = YES

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

### Configuration Screen #33

VCM Cnfg ID 59
Broadcast Supply
Temperature: NO
[0=NO 1=YES]

- 0 = NO
- 1 = YES

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

### Configuration Screen #34

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

- 0 = NO
- 1 = YES

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

### Configuration Screen #35

VCM Cnfg ID 59
Broadcast Internal
Time Clock: NO
[0=NO 1=YES]

- 0 = NO
- 1 = YES

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

### Configuration Screen #36

VCM Cnfg ID 59
Broadcast Internal
Schedule: NO
[0=NO 1=YES]

- 0 = NO
- 1 = YES

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

### Configuration Screen #37

VCM Cnfg ID 59
Broadcast VAV Boxes
Force To Max : YES
[0=NO 1=YES]

- 0 = NO
- 1 = YES

Check one of the boxes above. Default is “1 = YES”.

### Configuration Screen #38

VCM Cnfg ID 59
Broadcast VAV Boxes
Force To Fixed : NO
[0=NO 1=YES]

- 0 = NO
- 1 = YES

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

### Configuration Screen #39

VCM Cnfg ID 59
Enable Broadcast To
Multiple Loops: NO
[0=NO 1=YES]

- 0 = NO
- 1 = YES

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

### Configuration Screen #40

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

- 0 = NO
- 1 = YES

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

### Configuration Screen #41

VCM Cnfg ID 59
Cooling Stage Delays
Staging Up...: 3 Min
Staging Down : 1 Min

### Configuration Screen #42

VCM 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 “3”. In the second box above enter a value from 1 to 15. The default value is “1”.

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”.

VCM Cnfg ID 59
Broadcast Outdoor
Humidity: NO
[0=NO 1=YES]
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”.

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 all (4) of the available 4 Relay Expansion Boards and the 4 relay outputs available on the VCM controller, 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.

Check one of the boxes above. Default is “Not Used”.

Check one of the boxes above. Default is “No Reset”.

Check one of the boxes above. Default is “No Reset”.

Check one of the boxes above.
Configuration Screen #49

VCM Cnfg ID 59
Relay Configurations
Rly 6: Not Used
Press “0” To Change

☐ Not Used
☐ Cooling Stage
☐ Heating Stage
☐ Warm-up Mode
☐ Reversing Valve
☐ Reheat
☐ Pre-Heater
☐ Exhaust Fan
☐ Override
☐ Occupied
☐ Economizer

Check one of the boxes above.

Configuration Screen #50

VCM Cnfg ID 59
Relay Configurations
Rly 7: Not Used
Press “0” To Change

☐ Not Used
☐ Cooling Stage
☐ Heating Stage
☐ Warm-up Mode
☐ Reversing Valve
☐ Reheat
☐ Pre-Heater
☐ Exhaust Fan
☐ Override
☐ Occupied
☐ Economizer

Check one of the boxes above.

Configuration Screen #51

VCM Cnfg ID 59
Relay Configurations
Rly 8: Not Used
Press “0” To Change

☐ Not Used
☐ Cooling Stage
☐ Heating Stage
☐ Warm-up Mode
☐ Reversing Valve
☐ Reheat
☐ Pre-Heater
☐ Exhaust Fan
☐ Override
☐ Occupied
☐ Economizer

Check one of the boxes above.

Configuration Screen #52

VCM Cnfg ID 59
Relay Configurations
Rly 9x: Not Used
Press “0” To Change

☐ Not Used
☐ Cooling Stage
☐ Heating Stage
☐ Warm-up Mode
☐ Reversing Valve
☐ Reheat
☐ Pre-Heater
☐ Exhaust Fan
☐ Override
☐ Occupied
☐ Economizer

Check one of the boxes above.

Configuration Screen #53

VCM Cnfg ID 59
Relay Configurations
Rly 10: Not Used
Press “0” To Change

☐ Not Used
☐ Cooling Stage
☐ Heating Stage
☐ Warm-up Mode
☐ Reversing Valve
☐ Reheat
☐ Pre-Heater
☐ Exhaust Fan
☐ Override
☐ Occupied
☐ Economizer

Check one of the boxes above.

Configuration Screen #54

VCM Cnfg ID 59
Relay Configurations
Rly 11: Not Used
Press “0” To Change

☐ Not Used
☐ Cooling Stage
☐ Heating Stage
☐ Warm-up Mode
☐ Reversing Valve
☐ Reheat
☐ Pre-Heater
☐ Exhaust Fan
☐ Override
☐ Occupied
☐ Economizer

Check one of the boxes above.
### Configuration Screen #55

- Not Used
- Cooling Stage
- Heating Stage
- Warm-up Mode
- Reversing Valve
- Reheat
- Pre-Heater
- Exhaust Fan
- Override
- Occupied
- Economizer

Check one of the boxes above.

### Configuration Screen #56

- Not Used
- Cooling Stage
- Heating Stage
- Warm-up Mode
- Reversing Valve
- Reheat
- Pre-Heater
- Exhaust Fan
- Override
- Occupied
- Economizer

Check one of the boxes above.

### Configuration Screen #57

- Not Used
- Cooling Stage
- Heating Stage
- Warm-up Mode
- Reversing Valve
- Reheat
- Pre-Heater
- Exhaust Fan
- Override
- Occupied
- Economizer

Check one of the boxes above.

### Configuration Screen #58

- Not Used
- Cooling Stage
- Heating Stage
- Warm-up Mode
- Reversing Valve
- Reheat
- Pre-Heater
- Exhaust Fan
- Override
- Occupied
- Economizer

Check one of the boxes above.

### Configuration Screen #59

- Not Used
- Cooling Stage
- Heating Stage
- Warm-up Mode
- Reversing Valve
- Reheat
- Pre-Heater
- Exhaust Fan
- Override
- Occupied
- Economizer

Check one of the boxes above.

### Configuration Screen #60

- Not Used
- Cooling Stage
- Heating Stage
- Warm-up Mode
- Reversing Valve
- Reheat
- Pre-Heater
- Exhaust Fan
- Override
- Occupied
- Economizer

Check one of the boxes above.
Configuration Screen #61

VCM Cnfg ID 59
Relay Configurations
Rly 18: Not Used
Press “0” To Change

☐ Not Used
☐ Cooling Stage
☐ Heating Stage
☐ Warm-up Mode
☐ Reversing Valve
☐ Reheat
☐ Pre-Heater
☐ Exhaust Fan
☐ Override
☐ Occupied
☐ Economizer
Check one of the boxes above.

Configuration Screen #62

VCM Cnfg ID 59
Relay Configurations
Rly 19: Not Used
Press “0” To Change

☐ Not Used
☐ Cooling Stage
☐ Heating Stage
☐ Warm-up Mode
☐ Reversing Valve
☐ Reheat
☐ Pre-Heater
☐ Exhaust Fan
☐ Override
☐ Occupied
☐ Economizer
Check one of the boxes above.

Configuration Screen #63

VCM Cnfg ID 59
Relay Configurations
Rly 20: Not Used
Press “0” To Change

☐ Not Used
☐ Cooling Stage
☐ Heating Stage
☐ Warm-up Mode
☐ Reversing Valve
☐ Reheat
☐ Pre-Heater
☐ Exhaust Fan
☐ Override
☐ Occupied
☐ Economizer
Check one of the boxes above.

Configuration Screen #64

VCM Cnfg ID 59
Relay Configurations
Rly 21: Not Used
Press “0” To Change

☐ Not Used
☐ Cooling Stage
☐ Heating Stage
☐ Warm-up Mode
☐ Reversing Valve
☐ Reheat
☐ Pre-Heater
☐ Exhaust Fan
☐ Override
☐ Occupied
☐ Economizer
Check one of the boxes above.
### Setpoint Screen #1

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

In the first box above enter a value from 0 to 90. The default value is “75”. In the second box above enter a value from 0 to 90. The default value is “70”.

### Setpoint Screen #2

- **VCM Spts ID 59**
- **HVAC Mode Select**
  - Deadband: 1.0°F

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

### Setpoint Screen #3

- **VCM Spts ID 59**
- **Unoccupied Setbacks**
  - Cooling: 30°F
  - Heating: 30°F

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

- **VCM Spts ID 59**
- **SAT/Reset Source**
  - Cooling Spt: 55°F
  - Heating Spt: 120°F

In the first box above enter a value from 30 to 80. (Note: The minimum value is whatever value you entered for the SAT Reset Source Cooling Spt in Screen 4). The default value is “55”. In the second box above enter a value from 50 to 200. (Note: The minimum value is whatever value you entered for the SAT Reset Source Heating Spt in Screen 4). The default value is “120”.

### Setpoint Screen #5

- **VCM Spts ID 59**
- **Remote SAT Reset**
  - Cooling Spt: 55°F
  - Heating Spt: 120°F

In the first box above enter a value from 30 to 80. The default value is “55”. In the second box above enter a value from 0 to 250. The default value is “120”.

### Setpoint Screen #6

- **VCM Spts ID 59**
- **Stage Control Window**
  - Cooling: 5°F
  - Heating: 5°F

In the 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 #7

- **VCM Spts ID 59**
- **Outdoor Air Lockouts**
  - Cooling: 50°F
  - Heating: 70°F

In the first box above enter a value from 0 to 80. The default value is “50”. In the second box above enter a value from 50 to 90. The default value is “70”.

### Setpoint Screen #8

- **VCM Spts ID 59**
- **Cutoff**
  - Lo SAT: 40°F
  - Hi SAT: 170°F

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 #9

- **VCM Spts ID 59**
- **Minimum Supply Fan VFD Speed**
  - For Heating: 30%

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

### Setpoint Screen #10

- **VCM Spts ID 59**
- **Morning Warm Up**
  - 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 #11

- **VCM 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”.

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**VCM Configuration Sheet**

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Setpoint Screen #12

| VCM Spts ID 59 | Dehumidification | Coil Temperature | Setpoint: 45°F |

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

Setpoint Screen #13

| VCM 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 #14

| VCM Spts ID 59 | Economizer Setpoints | Min Position: 10% | Control Rate: 90 |

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 #15

| VCM 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 14 above). The default value is “100”.

Setpoint Screen #16

| VCM Spts ID 59 | CO2 Protection Limit | Max Level: 900 PPM | Reset Range: 100 PPM |

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 #17

| VCM 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 “1.0”. In the third box above enter a value from 1 to 30. The default value is 10.

Setpoint Screen #18

| VCM Spts ID 59 | Building Pressure Setpoint: 0.10” | Deadband: 0.02” |

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 #19

| VCM 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 #20

| VCM 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 #21

| VCM 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 #22

| VCM Spts ID 59 | Low OA Ambient Protection Temperature: 0°F |

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

Setpoint Screen #23

| VCM Spts ID 59 | HVAC Schedule: 0 [0=Internal] 1-5=External |

In the box above enter a value from 0 to 5. The default value is “0”.
Setpoint Screen #24

VCM 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 #25

VCM Spts ID 59
HVAC Mode Sensor
Slide Offset: 0°F

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

Setpoint Screen #26

VCM Spts ID 59
Air To Air Heat Pump
Auxiliary Heating
Delay: 3 Min

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

Setpoint Screen #27

VCM Spts ID 59
Internal Schedule
Optimal Start Soak
Multiplier: 0.0

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

Setpoint Screen #28

VCM Spts ID 59
Sensor Calibration
SPC: 72.0°F 0.00°F
SAT: 55.0°F 0.00°F

See setpoint information following Screen #29.

Setpoint Screen #29

VCM Spts ID 59
Sensor Calibration
RAT: 78.0°F 0.00°F
OAT: 85.0°F 0.00°F

Setpoint screens 28 and 29 allow you to calibrate any sensors that are not reading correctly. In the boxes above for the sensor(s) you wish to calibrate, enter a value from -100 to +100. The default 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.

Notes: