CONTROL LOGIC DESCRIPTION DOCUMENT

Configuration #: 10A02F8

Typical Building Application: Minimum Ventilation

Inputs/Outputs Table:

Inputs	Qty	Outputs	Qty
Inside temperature	6	ON/OFF sidewall ventilation stage	6
Outside temperature	1	ON/OFF tunnel ventilation stage	10
Static pressure	1	Fan override	1
Breaker temperature	1	Minimum ventilation inlet stage	2
Feeder	1	Tunnel ventilation inlet stage	2
Water	1	Heater	6
Humidity sensor	1	Feeder	1
		Variable light stage	1
		ON/OFF light stage	1
		Evaporative cooling	3
		Alarm	1

Equipment Required:

Item	Description	Qty
AVS-1032	Intelligent Control, 10 inputs / 32 outputs	1
IC-47	Intelligent Control, 4 inputs / 7 outputs	1
VSM-2	Variable Speed Module 10 Amps	1
2004-1k	Temperature Sensor (red)	8
RHP-1	Relative Humidity Sensor	1
Setra	Static Pressure Sensor	1

Configuration Versions:

Version	Date	Modification
F0	06/27/2001	New. Based on 132A01F0. Checksum master: C721D608 (CM16) Checksum slave: C54037B8 (CM8)
F1	10/16/2001	New. Based on 132A01F0. Checksum master: 0CD241EB (CM16) Checksum slave: 8D770DD9 (CM8)
F2	11/16/2001	Correction of On time before fan's timing.
F3	12/11/2001	Change max pressure and add breaker probe option. Checksum master: 10A13AD1 (CM16) Checksum slave: 462565B4 (CM8)
F3	12/19/2001	Correction of light logic. Checksum master: 6D75F2A4 (CM16) Checksum slave: 462565B4 (CM8)

F4	01/21/2002	Add alternate Minimum Ventilation Logic. Add Sidewall Fan High Temperature Override. Checksum master: C0C9082D (CM16) Checksum slave: E902B821 (CM8)
F4	01/25/2002	Change alternate Minimum Ventilation Logic. Change Sidewall Fan High Temperature Override so only Sidewall fans 4,5 and 6 have the Override option. Remove Breaker Temp option to incorporate it in Breaker Alarm. Checksum master: 71200E1E (CM16) Checksum slave: E902B821 (CM8)
F4	01/30/2002	Correction of light cycle. Correction of static pressure alarm. Checksum master: 61B90928 (CM16) Checksum slave: 9C612C49 (CM8)
F5	11/22/2002	Add five feeder cycles. Change on “Sensor Not Connect to Temp Alarm” appears only at midnight. Add Full Access feature. Add Automatic Vent On Time Before Fan On feature. Change Oscillating Min Vent wording. Remove Humidity and Breaker Hi/Lo. Checksum master: 5135E8E1 (CM16) Checksum slave: 53E54FFC (CM8)
F6	03/31/2005	Add static pressure low alarm output logic upgrade. Checksum master: 35ABC0D5 (CM16) Checksum slave: 25E53580 (CM8)
F7	09/30/2005	Change value of the full access code. Checksum master: E2E1AF0B (CM16) Checksum slave: 97DD3282 (CM8)
F8	02/19/2008	Correction on water alarm on a control reset. Checksum master: 48D16FE7 (CM16) Checksum slave: A7B64CF2 (CM8)

1. GENERAL

Introduction

The AVS-1032 is a powerful control that can be programmed to work in many types of buildings just by changing the configuration logic. The configuration logic is the software that makes the connection between the sensor reading, the parameters and the outputs. This software is stored in a chip identified with the configuration number. Make sure you have this configuration number at hand when calling your distributor.

For proper installation and full understanding your AVS-1032, it is important to read both the **AVS-1032 User's Manual** and this Control Logic Document. The User's Manual informs you on safety issues, warranty, sensors, adjustments of parameters and many other characteristics of the AVS-1032. However, this document explains all particularities of this configuration logic.

Definition

Throughout this document, the following terminology is used.

-MSP → **M**ain **S**et **P**oint. This is the Temperature goal for the room and it is also the reference temperature for all relative settings. Note that the MSP may be affected by the growth curve function; see also Growth curve function in the user's guide.

-RSP → **R**elative **S**et **P**oint. This is the number of degrees relative to the MSP where a function begins.

-Differential → This is the number of degrees changed before stopping the output. For instance, with a differential of 1.0°F, the AVS-1032 turns on a fan at 70.0°F as the temperature rises and it will shut it off at 69.0°F when the room cools down. The differential is necessary to avoid oscillations.

Expressions In *ITALICS* are user's parameters. Expressions in CAPITALS are readings that can't be modified by the user.

Ventilation System Overview

This configuration was developed for minimum ventilation applications. There are 6 sidewall stages and 10 tunnel stages, all of which operate continuously above their respective RSP and can operate on the minimum ventilation timer. Each stage is controlled by the temperature sensor(s) selected by the user. There are also 6 heater stages. There are 2 ventilation inlet stages, one for opening and one for closing, for minimum ventilation mode and 2 tunnel inlet stages, one for opening and one for closing, for tunnel ventilation. The minimum and tunnel ventilation inlets are controlled by static pressure. There are also 3 evaporative cooling stages. There is 1 stage for variable light operation and 1 for on/off light operation, 1 water counter and feeder counter and 1 feeder. An alarm check is also made to verify if the average temperature is too high or too low, and/or if the static pressure is too high or too low and/or if a sensor selected for the alarm is defective, too high or too low. This configuration works on an average of 1 to 6 temperature sensors, an outside temperature sensor, a breaker temp sensor and a static pressure sensor.

2. LOGIC DESCRIPTION

- All the following descriptions refer to the wiring diagram at the end of this document.
- **All the timers can have an imprecision of approximately 10 seconds.**
- Temperature is measured in Fahrenheit.
- Sensor(s) must be selected for stages including ventilation, heaters and also for the alarm check and the average room temperature reading.

Parameter 1:

AVG ROOM TEMPERATURE

This parameter displays the actual average temperature of the selected sensor(s). This parameter is displayed to the nearest 0.1°F from -6.0°F to 168.6°F.

F2: ***CHOOSE HI/LO***

This parameter allows user to choose the result that will be displayed on the LED display in F3. If set to Hi, the maximum temperature recorded by the average will be displayed. If set to Lo, the lowest temperature recorded will be displayed.

F3: RESULT

This parameter displays the recorded temperature chosen in F2. To clear the Hi/Lo temperature recorded, Press and hold + and - buttons until CLR appears on the LED display. The Hi/Lo temperatures will clear shortly after. The temperature is displayed to the nearest 0.1°F from -6.0°F to 168.6°F.

Parameters 2-6:

TEMP SENSOR 1 to 5

These parameters display the actual inside temperature. These parameters are displayed to the nearest 0.1°F from -6.0°F to 168.6°F.

F3: In addition to the readout of the sensor, the parameter can record the lowest and highest values reached. To access the Hi/Lo function, press F3 of respective SENSOR parameter. To clear the respective Hi/Lo value, after pressing F3, press and hold the + and - buttons until CLR appears on the LED display.

Parameter 7:

TEMP SENSOR 6

This parameter displays the actual inside temperature of probe 6. This parameter is displayed to the nearest 0.1°F from -6.0°F to 168.6°F.

F2: ***CHOOSE HI/LO***

This parameter allows user to choose the result that will be displayed on the LED display in F3. If set to Hi, the maximum temperature recorded by the temperature probe 6 will be displayed. If set to Lo, the lowest temperature recorded will be displayed.

F3: RESULT

This parameter displays the recorded temperature chosen in F2. To clear the Hi/Lo temperature recorded, Press and hold + and - buttons until CLR appears on the LED display. The Hi/Lo temperatures will clear shortly after. The temperature is displayed to the nearest 0.1°F from -6.0°F to 168.6°F.

Parameter 8:

OUTSIDE TEMP SENSOR

This parameter displays the actual outside temperature. This parameter is displayed to the nearest 0.1°F from -6.0°F to 168.6°F.

F2: ***CHOOSE HI/LO***

This parameter allows user to choose the result that will be displayed on the LED display in F3. If set to Hi, the maximum temperature recorded by the outside temperature probe will be displayed. If set to Lo, the lowest temperature recorded will be displayed.

F3: RESULT

This parameter displays the recorded temperature chosen in F2. To clear the Hi/Lo temperature recorded, Press and hold + and - buttons until CLR appears on the LED display. The Hi/Lo temperatures will clear shortly after. The Hi/Lo temperatures will clear shortly after. The temperature is displayed to the nearest 0.1°F from -6.0°F to 168.6°F.

Parameter 9:

STATIC PRESS SENSOR

This parameter displays the actual static pressure. This parameter is displayed to the nearest 0.001 “WC from 0.000 “WC to 0.200 “WC.

F3: In addition to the readout of the sensor, the parameter can record the lowest and highest values reached. To access the Hi/Lo function, press F3 of respective SENSOR parameter. To clear the respective Hi/Lo value, after pressing F3, press and hold the + and - buttons until CLR appears on the LED display.

Parameter 10:

HUMIDITY SENSOR

This parameter displays the actual relative humidity. This parameter is displayed to the nearest 1 RH% from 10 RH% to 90 RH%.

Parameter 11:

BREAKER TEMP

This parameter displays the temperature of the breaker. This temperature is displayed to the nearest 0.1°F from -6.0°F to 168.6°F.

Parameter 12:

TODAY WATER USED

This parameter displays the number of gallons that has been accumulated since midnight (12:00A). To clear the TODAY WATER USED value, press and hold + and - buttons until CLR appears on the LED display. This will not clear the DAILY HISTORY WATER USED value.

F3: DAILY HISTORY WATER USED (available only when RAMPING DAY is ON.)

This parameter asks the user to choose a day between 1 and 126. Once the day has been chosen, the control will give the total gallons accumulated during that specific day. Take note that if the total of a particular day is above 1000, the last digit of the number is not shown since only 3 number digits are available on the display. To clear the DAILY HISTORY WATER USED value, press F3 then, press and hold + and - buttons until CLR appears on the display. This will not clear the TODAY WATER USED value. **It is important to clear the history when RAMPING DAY is reset to day 1. Otherwise, the history features might not work as expected.**

Parameter 13:

TOTAL WATER USED

This parameter displays the total gallons accumulated in the TODAY WATER USED and the DAILY HISTORY WATER USED. Each increment equals 10 gallons, so user has to multiply by 10 the number displayed. To set the TOTAL WATER USED to 0 both TODAY WATER USED and DAILY HISTORY WATER USED must be cleared. To clear the TOTAL WATER USED value, refer to parameter 12, F3. TOTAL WATER USED can display up to 32750 x 10 gallons.

Parameter 14:

FEED ACTIVE

This parameter displays the status of the feed sensor. This parameter displays either ON or OFF.

Parameter 15:

TODAY FEED TIME

This parameter displays the number of minutes the feeder has worked since the last midnight (12:00A). To clear the TODAY FEED TIME value, press and hold + and - buttons until CLR appears on the display. This will not clear the DAILY HISTORY FEED TIME value.

F3: DAILY HISTORY FEED TIME (available only when RAMPING DAY is ON.)

This parameter asks the user to choose a day between 1 and 126. Once the day has been chosen, the control will give the total of minutes accumulated during that specific day. Take note that if the total of a particular day is above 1000, the last digit of the number is not shown since only 3 number digits are available on the display. To clear the DAILY HISTORY FEED TIME value, press and hold + and - buttons until CLR appears on the display. This will not clear the TODAY FEED TIME value. **It is important to clear the history when RAMPING DAY is reset to day 1. Otherwise, the history features might not work as expected.**

Parameter 16:

FEED SELECT HISTORY DAY (available only when RAMPING DAY is ON.)

This parameter asks the user to choose a day between 1 and 70. Once the day has been chosen, the control will give the total pounds accumulated during that specific day at parameter FEED HISTORY DAY SELECTED.

Note for parameter 16: When a day is selected at *FEED SELECT HISTORY DAY,* the feed time will appear at parameter 17. There is a delay of approximately 10 seconds before the good value is shown.

Parameter 17:

FEED HISTORY DAY SELECTED (available only when RAMPING DAY is ON.)

This parameter gives the total pounds accumulated during the day chosen at parameter *FEED SELECT HISTORY DAY.* Knowing the *FEED CALIBRATION* (refer to parameter 19) and the *FEED SELECT HISTORY DAY,* the FEED HISTORY DAY SELECTED is calculated as shown at parameter 18.

Parameter 18:

FEED TOTAL POUNDS

This parameter gives the total pounds accumulated since the last cleared. The FEED TOTAL POUNDS is calculated by adding TODAY FEED TIME and DAILY HISTORY FEED TIME together. From this result, we can apply the *FEED CALIBRATION* (refer to parameter 19) conversion to calculate the FEED TOTAL POUNDS. When clearing the history parameter (parameter 15), this will clear out parameter 17 at the same time.

Parameter 19:

FEED CALIBRATION

This parameter sets the amount of feed (in lbs) that the system processes in 1 minute. The result of this setting is reflected at parameter 18. This parameter can be set from 1 to 500 lbs/min.

Parameter 20:

CLOCK

Give the time in AM/PM format.

F2: ***ADJUST VALUE*** **(minutes)**

Adjust minutes for CLOCK function.

F3: ***ADJUST VALUE*** **(hours)**

Adjust hours for CLOCK function.

Parameter 21:

MAIN SET POINT (NO RAMP.)

This is the temperature goal for the room and it is also the reference temperature for all relative settings. This parameter is not affected by the ramping function. The *MSP (NO RAMP.)* is adjusted in 0.1°F increments from 32.0°F to 120.0°F.

Parameter 22:

MAIN SET POINT (RAMPING)

This is the temperature goal for the room and it is also the reference temperature for all relative settings. This parameter is affected by the ramping function. The *MSP (RAMPING)* is adjusted in increments 0.1°F from 32.0°F to 120.0°F.

F2: ***ADJUST VALUE*** **(8 day points)**

Can program up to 8 days for growth day function.

F3: ***ADJUST VALUE*** **(8 temperature points)**

Can program up to 8 relative temperatures to the day (F2) for growth day function.

Parameter 23:

VENT STATIC PRESS LO SP

This SP establishes the low pressure limit for the vent inlet when temperature is below *STATIC PRESS TEMP OVERRIDE RSP* and *FULL OPEN PRESS TEMP OVERRIDE RSP*, if stat press is below *VENT STAT PRESS LO SP*, vent inlet will close. The *VENT STATIC PRESS LO SP* is adjusted in 0.001”WC increments from 0.000”WC to 0.200”WC.

Ex: See parameter 23, *TEMP. OVERRIDE DIFF*, for example.

F2: ***VENT STATIC PRESS HI SP***

This SP establishes the high pressure limit for the vent inlet when temperature is below *STATIC PRESS TEMP OVERRIDE RSP* and *FULL OPEN PRESS TEMP OVERRIDE RSP*, if stat press is above *VENT STAT PRESS HI SP*, vent inlet will open. The *VENT STATIC PRESS HI SP* is adjusted in 0.001”WC increments from 0.000”WC to 0.200”WC.

Ex: See parameter 23, *TEMP. OVERRIDE DIFF*, for example.

F2: ***TUNNEL STATIC PRESS LO SP***

This SP establishes the low pressure limit for the tunnel inlet in **tunnel mode**. When static pressure is below *TUNNEL STATIC PRESS LO SP*, tunnel inlet closes. In minimum ventilation (refer to parameter 67, *TUNNEL START)*, tunnel inlet closes completely. The *TUNNEL STATIC PRESS LO SP* is adjusted in 0.001”WC increments from 0.000”WC to 0.200”WC.

Ex: See parameter 23, *TEMP. OVERRIDE DIFF*, for example

F2: ***TUNNEL STATIC PRESS HI SP***

This SP establishes the high pressure limit for the tunnel inlet in **tunnel mode**. When static pressure is above *TUNNEL STATIC PRESS HI SP,* tunnel inlet opens. In minimum ventilation (refer to parameter 67, *TUNNEL START),* tunnel inlet closes completely. The *TUNNEL STATIC PRESS HI SP* is adjusted in 0.001”WC increments from 0.000”WC to 0.200”WC.

Ex: See parameter 23, *TEMP. OVERRIDE DIFF,* for example.

F2*: STAT PRESS LO SP TEMP OVERRIDE*

This SP establishes the low pressure limit for the vent inlet when temperature is above *STATIC PRESS TEMP OVERRIDE*. If stat press is below *STATIC PRESS LO SP TEMP OVERRIDE,* vent inlet will close. The *STATIC PRESS LO SP TEMP OVERRIDE* is adjusted in 0.001”WC increments from 0.000”WC to 0.200”WC.

Ex: See parameter 23, *TEMP. OVERRIDE DIFF,* for example.

F2: ***STAT PRESS HI SP TEMP OVERRIDE***

This SP establishes the high pressure limit for the vent inlet when temperature is above *STATIC PRESS TEMP OVERRIDE*. If stat press is above *STATIC PRESS HI SP TEMP OVERRIDE,* vent inlet will open. The *STATIC PRESS HI SP TEMP OVERRIDE* is adjusted in 0.001”WC increments from 0.000”WC to 0.200”WC.

Ex: See parameter 23, *TEMP. OVERRIDE DIFF,* for example.

F2: ***STAT PRESS TEMP OVERRIDE RSP***

This parameter establishes which settings the vent inlet must take depending on temperature. If temperature is below *STAT PRESS TEMP OVERRIDE RSP,* vent inlet will follow *STATIC PRESS HI/LO SP* and if above *STAT PRESS TEMP OVERRIDE RSP,* the vent inlet will follow *STAT PRESS HI/LO SP TEMP OVERRIDE.* This parameter is adjusted in 0.1°F from 0.0°F to 20.0°F.

Ex: See parameter 23, *TEMP. OVERRIDE DIFF,* for example.

F2: ***FULL OPEN TEMP OVERRIDE RSP***

This parameter establishes at which temperature the vent inlet will enter full open mode. If temperature increases to *FULL OPEN TEMP OVERRIDE RSP,* vent inlet will go in full open mode. When temperature decreases below *FULL OPEN TEMP OVERRIDE RSP - TEMP. OVERRIDE DIFF* the vent inlet will follow *STAT PRESS HI/LO SP TEMP OVERRIDE* or *VENT STATIC PRESS HI/LO SP.* This parameter is adjusted in 0.1°F from 0.0°F to 20.0°F.

Ex: See parameter 23, *TEMP. OVERRIDE DIFF,* for example.

F2: ***TEMP. OVERRIDE DIFF***

This parameter establishes the differential for *FULL OPEN TEMP OVERRIDE RSP* and *STAT PRESS TEMP OVERRIDE RSP* to avoid oscillations between ON and OFF. *TEMP. OVERRIDE DIFF* is adjusted in 0.1°F from 0.0°F to 10.0°F.

Ex: ***STAT PRESS TEMP OVERRIDE RSP*** **=** 5.0°F,
FULL OPEN TEMP OVERRIDE RSP **=** 10.0°F,
TEMP. OVERRIDE DIFF **=** 2.0°F,
MSP = 70.0°F,

- Below 75.0°F, vent inlet will follow *STATIC PRESS HI/LO SP.*
- At 75.0°F and above, vent inlet will follow *STAT PRESS HI/LO SP TEMP OVERRIDE.*
- At 80.0°F and above, vent inlet will go in full open mode.
- At 78.0°F, vent inlet will follow *STAT PRESS HI/LO SP TEMP OVERRIDE.*
- At 73.0°F, vent inlet will follow *STATIC PRESS HI/LO SP.*

Parameter 24:

ALARM DELAY LO STATIC PRESS

This delay allows the pressure to exceed the limit *STATIC PRESS LO ALARM SP* without activating the alarm. The *ALARM DELAY LO STATIC PRESS* is adjusted in 10 second increments from 10 seconds to 900 seconds.

Ex: See parameter 24, *STATIC PRESS HI ALARM SP*, for example.

F2: ***ALARM DELAY HI STATIC PRESS***

This delay allows the pressure to exceed the limit *STATIC PRESS HI ALARM SP* without activating the alarm. The *ALARM DELAY HI STATIC PRESS* is adjusted in 10 second increments from 10 seconds to 900 seconds.

Ex: See parameter 24, *STATIC PRESS HI ALARM SP*, for example.

F2: ***STATIC PRESS LO ALARM SP***

This SP establishes the low pressure alarm limit. When pressure is below *STATIC PRESS LO ALARM SP*, the *ALARM DELAY LO STATIC PRESS* is activated. There is an alarm satisfy time which allows the static pressure to return above *STATIC PRESS LO ALARM SP* for a period of time of 10 seconds without resetting the *ALARM DELAY LO STATIC PRESS*. The *STATIC PRESS LO ALARM SP* is adjusted in 0.001”WC increments from 0.005”WC to 0.100”WC.

Ex: See parameter 24, *STATIC PRESS HI ALARM SP*, for example.

F2: ***STATIC PRESS HI ALARM SP***

This SP establishes the high pressure alarm limit. When pressure is above *STATIC PRESS HI ALARM SP*, the *ALARM DELAY HI STATIC PRESS* is activated. The *STATIC PRESS HI ALARM SP* is adjusted in 0.001”WC increments from 0.050”WC to 0.200”WC.

Ex: ***STATIC PRESS LO ALARM SP*** = 0.020”WC,
STATIC PRESS HI ALARM SP = 0.100”WC,
ALARM DELAY LO STATIC PRESS = 300 sec,
ALARM DELAY HI STATIC PRESS = 60 sec,

- When static pressure is below 0.020”WC, the *ALARM DELAY LO STATIC PRESS* is activated. If the static pressure is always below 0.020”WC after the 300 second delay has expired, the alarm is activated. The low pressure alarm can be cleared out manually by setting the parameter *CLEAR ALARMS* to CLR for at least 10 seconds and **readjusting it to 0** after the alarm is cleared. If *CLEAR ALARMS* stays to CLR, the low press alarm will never be allowed to activate.
- When static pressure is above 0.100”WC, the *ALARM DELAY HI STATIC PRESS* is activated. If the static pressure is always above 0.100”WC after the 60 second delay has expired, the alarm is activated. The high pressure alarm can be cleared out manually by setting the parameter *CLEAR ALARMS* to CLR for at least 10 seconds and **readjusting it to 0** after the alarm is cleared. If *CLEAR ALARMS* stays to CLR, the high press alarm will never be allowed to activate.

F2: ***STATIC PRESS LO ALARM OUTPUT***

This parameter is used to set the alarm relay ON or OFF on a low pressure alarm. Even if this option is set to OFF, the alarm is triggered (shown by LCD message) except that the alarm relay is not activated. This parameter can be set to ON or OFF.

F2: ***DELAY BEFORE SWITCHING OPEN/CLOSE***

This is the time allowed to the inlet before changing state from open to close or close to open and also from a neutral state (don’t move) to close or open. The *DELAY BEFORE SWITCHING OPEN/CLOSE* is adjusted in 1 second increments from 0 seconds to 30 seconds.

F2: ***AVG FAN CYCLES***

This parameter allows user to choose the number of fan cycles for which static pressure will be sampled to adjust the VENT OPEN TIME BEFORE FAN ON time. The control will keep a number of static pressure samples equal to the number set in this parameter in memory to make adjustments until an adjustment is made or STATIC PRESSURE sample is within limits. The control will then make an average out of these samples to calculate the compensation necessary to maintain ideal static pressure. If one or more samples are within *VENT STATIC PRESS LO SP* or *VENT STATIC PRESS HI SP*, no adjustments will be made. If all samples are outside those same points, VENT OPEN TIME BEFORE FAN ON will be adjusted. This parameter is adjusted in 1 cycle increments from 1 to 5 cycles.

Ex: See VENT OPEN TIME BEFORE FAN ON for example.

F2: ***STATIC PRESS RANGE = 1 SEC***

This parameter represents the amount of static pressure that will add or subtract one second from the VENT OPEN TIME BEFORE FAN ON. When average of the static pressure samples exceeds *VENT STATIC PRESS HI SP*, the control will divide the difference between the SP and the average of the samples by *STATIC PRESS RANGE = 1 SEC* and add that many seconds (+ 1 if there is a remainder) to VENT OPEN TIME BEFORE FAN ON. When STATIC PRESS is lower than *VENT STATIC PRESS LO SP*, the control will divide the difference between the SP and the sample by *STATIC PRESS RANGE = 1 SEC* and subtract that many seconds (+ 1 if there is a remainder) to VENT OPEN TIME BEFORE FAN ON. This parameter is adjusted in 0.002”WC increments from 0.002”WC to 0.020”WC.

Ex: See VENT OPEN TIME BEFORE FAN ON for example.

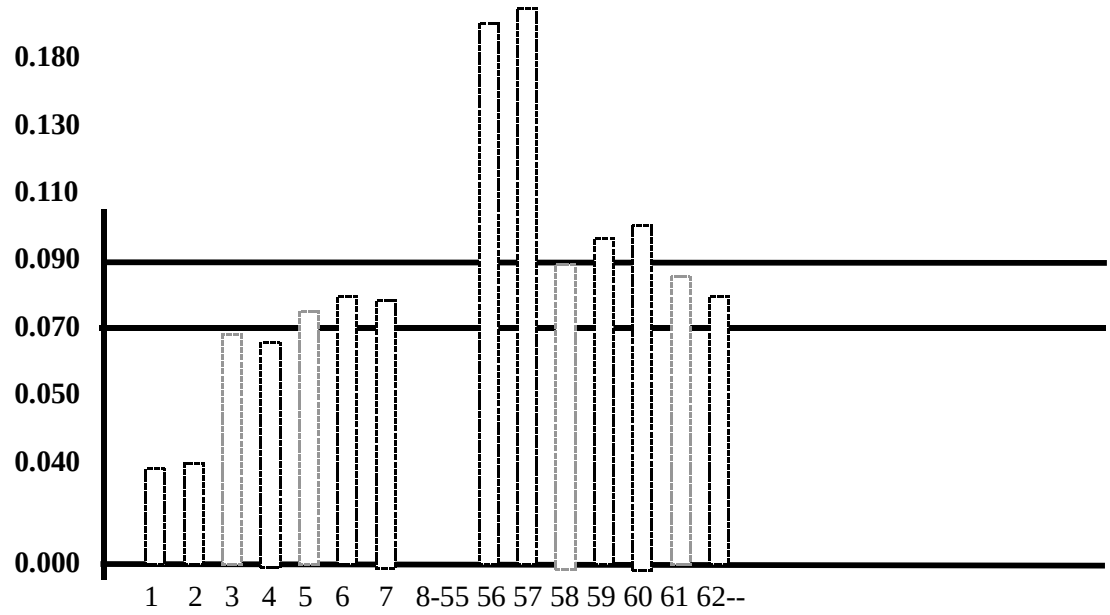
Parameter 25:

VENT OPEN TIME BEFORE FAN ON

When the temperature is below all fans’ RSPs and min vent timer is used on at least one fan, the vent inlet will follow static pressure sensor and the parameter VENT OPEN TIME BEFORE FAN ON. The min vent timer has an ON time and an OFF time. Depending on the value of VENT OPEN TIME BEFORE FAN ON, the vent inlet will start opening during the min vent OFF time and will stop once the OFF time has expired or fan has started. As the ON time begins, the fans will be activated and the vent inlet will operate according to the static pressure sensor. The VENT OPEN TIME BEFORE FAN ON value is modified by the control according to the static pressure samples taken as vent inlet returns to pressure mode after the transition from OFF to ON in a minimum ventilation cycle. If any fans are active on temperature demand, no sampling or adjustments will be done. The VENT OPEN TIME BEFORE FAN ON is displayed to the nearest second from 1 to 120 seconds and will never be outside those limits.

Ex 1: **VENT OPEN TIME BEFORE FAN ON auto-adjustment.**
STATIC PRESS LO SP = 0.070”WC,
STATIC PRESS HI SP = 0.090”WC,
MIN VENT TIME ON = 30 sec,
MIN VENT CYCLE TIME = 5 minutes,
AVG. FAN CYCLES = 2 cycles,
STATIC PRESS RANGE = 1 SEC = 0.010” WC,
VENT OPEN TIME BEFORE FAN ON preset at 15 sec.

After any 2 consecutive low or high STATIC PRESSURE samples, control will make an adjustment to VENT OPEN BEFORE FAN ON to achieve desired STATIC PRESSURE in the next minimum ventilation cycle. The minimum ventilation cycles in gray are those where control made an adjustment, see chart below)



Ex 1: VENT OPEN TIME BEFORE FAN ON auto-adjustment. (Continued)

1 Min vent cycle 1: STATIC PRESSURE sample is 0.037”WC. (Lower than *STATIC PRESS LO SP*)

2 Min vent cycle 2: STATIC PRESSURE sample is 0.039”WC. (Lower than *STATIC PRESS LO SP*)
- After these 2 consecutive low STATIC PRESSURE cycles, control will decrease VENT ON TIME BEFORE FAN ON, by 4 sec, from 15 to 11 sec.
- This is calculated as follows:

Average STATIC PRESSURE:	(0.037 + 0.039)/2 = 0.038”WC
Time subtracted:	(0.070 - 0.038)/0.010 = 3,2 (4 seconds)
VENT OPEN TIME BEFORE FAN ON:	15 - 4 = 11 seconds

3 Min vent cycle 3: STATIC PRESSURE sample is 0.065”WC. (Lower than *STATIC PRESS LO SP*)

4 Min vent cycle 4: STATIC PRESSURE sample is 0.063”WC. (Lower than *STATIC PRESS LO SP*)
- After these 2 consecutive low STATIC PRESSURE cycles, control will decrease VENT ON TIME BEFORE FAN ON, by 1 sec, from 11 to 10 sec.
- This is calculated as follows:

Average STATIC PRESSURE:	(0.065 + 0.063)/2 = 0.064”WC
Time subtracted:	(0.070 - 0.064)/0.010 = 0,6 (1 second)
VENT OPEN TIME BEFORE FAN ON:	11 - 1 = 10 seconds

5-7 Min vent cycle 5-7: STATIC PRESSURE sample is within *STATIC PRESS LO SP* and *STATIC PRESS HI SP.*

8-55 Many more Min vent cycles where STATIC PRESSURE sample is within *STATIC PRESS LO SP* and *STATIC PRESS HI SP.* Then user adds another fan to timer.

56 Min vent cycle 56: STATIC PRESSURE sample is 0.184”WC. (Higher than *STATIC PRESS HI SP*)

57 Min vent cycle 57: STATIC PRESSURE sample is 0.195”WC. (Higher than *STATIC PRESS HI SP*)
- After these 2 consecutive high STATIC PRESSURE cycles, control will increase VENT ON TIME BEFORE FAN ON, by 10 sec, from 11 to 21 sec.
- This is calculated as follows:

Average STATIC PRESSURE:	(0.184 + 0.195)/2 = 0.189”WC
Time subtracted:	(0.189 - 0.090)/0.010 = 9,9 (10 seconds)
VENT OPEN TIME BEFORE FAN ON:	11 + 10 = 21 seconds

58 Min vent cycle 58: STATIC PRESSURE sample is within *STATIC PRESS LO SP* and *STATIC PRESS HI SP.*

59 Min vent cycle 59: STATIC PRESSURE sample is 0.094”WC. (Higher than *STATIC PRESS HI SP*)

60 Min vent cycle 60: STATIC PRESSURE sample is 0.098”WC. (Higher than *STATIC PRESS HI SP*)
- After these 2 consecutive high STATIC PRESSURE cycles, control will increase VENT ON TIME BEFORE FAN ON, by 1 sec, from 21 to 22 sec.
- This is calculated as follows:

Average STATIC PRESSURE:	(0.94 + 0.98)/2 = 0.096”WC
Time subtracted:	(0.096 - 0.090)/0.010 = 0,6 (1 second)
VENT OPEN TIME BEFORE FAN ON:	21 + 1 = 22 seconds

61 Min vent cycle 61: STATIC PRESSURE sample is within *STATIC PRESS LO SP* and *STATIC PRESS HI SP*

Ex 2: VENT OPEN TIME BEFORE FAN ON application.
All fans are below their respective RSP,
VENT OPEN TIME BEFORE FAN ON = 40 sec,
MIN VENT TIME ON = 120 sec,
MIN VENT CYCLE TIME = 5 min.

The vent inlet will react as follows:
The fans are OFF for 3 minutes and ON for 2 minutes. The vent inlet follows static pressure sensor for all the time ON and for 2 minutes and 20 seconds of time OFF. At 40 seconds of the end of min vent time OFF (3 minutes - 40 seconds = 2 minutes and 20 seconds), the vent inlet will open for 40 seconds (until the beginning of time ON). Fans with timer option will then activate and static pressure sample will be taken shortly after. Vent inlet will return to pressure mode and so on until a temperature demand.

Parameter 26:

VENT OPEN TIME RESET VALUE

This parameter allows user to set the value for VENT OPEN TIME BEFORE FAN ON when *RESET/MAN OVERR VENT ON TIME* is set to CLR. This parameter is adjusted in 1 second increments from 1 to 120 seconds.

F2: ***RESET/MAN OVERR VENT ON TIME***

This parameter can be used to reset or manually override the current VENT ON TIME BEFORE FAN ON value. If set to CLR, VENT OPEN TIME BEFORE FAN ON is reset to the value set at *VENT OPEN TIME RESET VALUE*. This is necessary in case sensor becomes unplugged or defective and value of VENT OPEN TIME BEFORE FAN ON is modified by these incorrect readings. If this parameter stays set to CLR, VENT OPEN TIME BEFORE FAN ON will always use *VENT OPEN TIME RESET VALUE* and will never be adjusted by control. When readjusted to AUTO, control will start automatic adjustment again. This parameter can be set to AUTO or CLR.

Parameters 27-32:

HEAT 1-6 RSP

The respective heater is activated when temperature decreases to *HEAT # RSP.* Each *HEAT # RSP* is adjusted in 0.1°F increments from -50.0°F to 0.0°F.

F2: ***HEAT 1-6 DIFF***

The respective heater is deactivated after the temperature has warmed up to *HEAT # DIFF.* Each *HEAT # DIFF* is adjusted in 0.1°F increments from 0.5°F to 10.0°F.

Parameter 33:

All sidewall and tunnel fans can be set to work with minimum ventilation timer by using *SIDEWALL/TUNNEL FAN # TIMER* when the temperature is below respective RSPs. The duration of the time ON and OFF can change depending on the temperature (AVG ROOM TEMPERATURE).

MIN VENT TIME ON

This parameter is used to establish the min vent ON time when the temperature is below the *MSP* + 1.0°F. The oscillating min vent timer is composed of two identical cycles. When the first time ON is finished, the second one will start and vice versa. Fans will activate either on the first or second ON time depending on the *SIDEWALL/TUNNEL FAN # TIMER*. However, if no fans have this option set to 2 (or 1), all fans with the option set to 1 (or 2) will work on both min vent ON times. The *MIN VENT TIME ON* is adjusted in 1 second increments from 10 seconds to 900 seconds.

Ex: Refer to parameter *MIN VENT CYCLE TIME* for example.

F2: ***ADD TIME 1°F ABOVE SP***

This parameter is used to increase the minimum ventilation ON time when the temperature is 1°F above the SP. When the temperature (AVG ROOM TEMPERATURE) is above *MSP* + 1.0°F, the value set at this parameter will be added to the *MIN VENT TIME ON*. The *ADD TIME 1°F ABOVE SP* is adjusted in 1 second increments from OFF, 3 to 60 seconds.

Ex: Refer to parameter *MIN VENT CYCLE TIME* for example.

F2: ***ADD TIME 1.5 °F ABOVE SP***

This parameter is used to increase the minimum ventilation ON time when the temperature is 1.5°F above the SP. When the temperature (AVG ROOM TEMPERATURE) is above *MSP* + 1.5°F, the value set at this parameter will be added to the *MIN VENT TIME ON*. The *ADD TIME 1.5°F ABOVE SP* is adjusted in 1 second increments from OFF, 3 to 60 seconds.

Ex: Refer to parameter *MIN VENT CYCLE TIME* for example.

F2: ***MIN VENT CYCLE TIME***

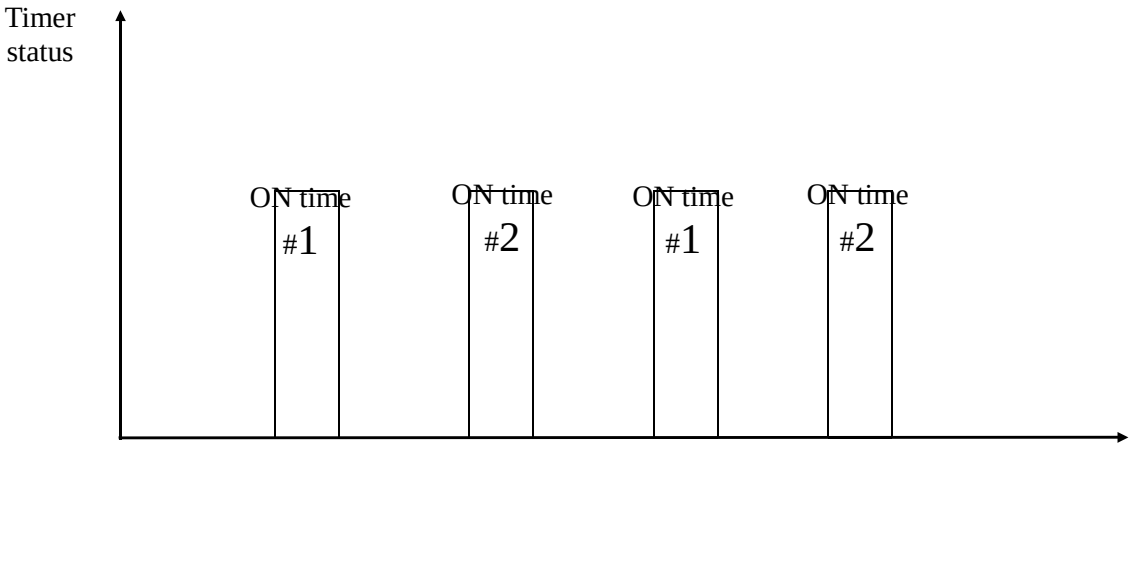
This parameter is used to establish the cycle time of the min vent timer. The *MIN VENT CYCLE TIME* is adjusted in 1 minute increments from 1 minute to 15 minutes.

Ex: ***MIN VENT TIME ON*** = 30 sec,
MIN VENT TIMER CYCLE = 5 min,
MSP = 70.0°F,
ADD TIME 1. 5 °F ABOVE SP = 15 sec,
ADD TIME 1°F ABOVE SP = 15 sec,

The min vent timer follows these steps as the temperature (AVG ROOM TEMPERATURE) increases so, when temperature (AVG ROOM TEMPERATURE) is:

-at and below 71.0°F, the min vent timer will be ON 30 seconds and OFF 4 minutes 30 seconds.
-between 71.0°F and 71.6°F, the min vent timer will be ON 45 seconds and OFF 4 minutes 15 seconds.
-at and above 71.6°F, the min vent timer will be ON 60 seconds and OFF 4 minutes.

Note: -To avoid the fans to stopping and starting at a transition of a time ON, the time ON period will be changed only when timer changes states from OFF to ON or ON to OFF.
-As soon as all fans **(sidewall and tunnel)** are below their RSPs, min vent timer will reinitialize once.



Parameters 34-39 (sidewall fans) and 40-49 (tunnel fans):

SIDEWALL/TUNNEL FAN # RSP

The respective fan is activated full time when inside temperature increases to *SIDEWALL/TUNNEL FAN # RSP*. Each *SIDEWALL/TUNNEL FAN # RSP* is adjusted in 0.1°F increments from 0.0°F to 20.0°F.

F2: ***SIDEWALL/TUNNEL FAN # DIFF***

The respective fan is deactivated after the temperature has cooled down to *SIDEWALL/TUNNEL FAN # DIFF*. Each *SIDEWALL/TUNNEL FAN # DIFF* is adjusted in 0.1°F increments from 0.5°F to 10.0°F.

F3: ***SIDEWALL/TUNNEL FAN # TIMER***

This gives the option for the fans to work with the oscillating minimum ventilation timer. The min vent timer has two identical cycles. The values entered in the minimum ventilation parameters (See *MIN VENT TIME ON*) will compose one cycle of the oscillating minimum ventilation timer. Once a cycle is finished, the second one will start and the first one will start again once the second one has finished. This parameter lets the user choose whether the fans will work on the first or second ON time. If no fans are set to work on a given cycle of the oscillating minimum ventilation timer, that cycle will be deactivated. When temperature is below the respective *SIDEWALL/TUNNEL FAN # RSP* and *SIDEWALL/TUNNEL FAN # TIMER* is set to 1 or 2, the respective fan will follow the respective time ON and the time OFF.

Parameter 50:

HIGH TEMP OVERRIDE SP

This parameter sets the temperature at which sidewall fans will activate, regardless of tunnel mode and timers. If this absolute temperature is reached, sidewall fans with the *SIDEWALL FAN 4-6 HIGH TEMP OVERRIDE* option ON will activate. This **absolute** temperature is adjusted in 0.1°F increments from 32.0°F to 120.0°F.

F2: ***SIDEWALL 4 HIGH TEMP OVERRIDE***

F2: ***SIDEWALL 5 HIGH TEMP OVERRIDE***

F2: ***SIDEWALL 5 HIGH TEMP OVERRIDE***

These parameters are used to decide which sidewall fans, if any, will be activated when temperature rises above *HIGH TEMP OVERRIDE SP.* If this option is set to ON respective sidewall fan will activate when *HIGH TEMP OVERRIDE SP* is reached. These parameters can be set to ON or OFF.

Parameter 51:

FAN OVERRIDE RSP

The fan is activated full time when inside temperature increases to *FAN OVERRIDE RSP.* The *FAN OVERRIDE RSP* is adjusted in 0.1°F increments from 0.0°F to 40.0°F.

F2: ***FAN OVERRIDE DIFF***

The fan is deactivated after the temperature has cooled down to *FAN OVERRIDE DIFF. FAN OVERRIDE DIFF* is adjusted in 0.1°F increments from 0.5°F to 10.0°F.

Parameter 52:

EVAP COOL TIME ON

This parameter is to establish the evap cool timer ON time. Setting this parameter to OFF can turn OFF Evap cool timer. *EVAP COOL TIME ON* is adjusted in 1 second increments from OFF to 300 seconds.

F2: ***EVAP COOL CYCLE TIME***

This parameter is to establish the evap cool timer OFF time. The OFF portion of the evap cool timer is equal to *EVAP COOL CYCLE TIME - EVAP COOL TIMER ON*. The *EVAP COOL CYCLE TIME* is adjusted in 1 minute increments from 1 minute to 15 minutes.

Parameters 53-55:

Regardless of RSP, diff, timer and evap cool clock, evap cool will not be allowed to function until, system is in tunnel mode this is controlled by select tunnel start.

EVAP COOL 1-3 RSP

The evap cool is activated full time when temperature increases to *EVAP COOL # RSP*. This will override *EVAP COOL # TIMER RSP*. The *EVAP COOL # RSP* is adjusted in 0.1°F increments from 0.0°F to 40.0°F.

F2: ***EVAP COOL 1-3 DIFF***

The evap cool logic is deactivated after the temperature has cooled down to *EVAP COOL # DIFF*. This differential is to function with EVAP *COOL # RSP* and *EVAP COOL # TIMER RSP*. The *EVAP COOL # DIFF* is adjusted in 0.1°F increments from 0.5°F to 30.0°F.

F2: ***EVAP COOL 1-3 TIMER RSP***

The evap cool timer activates the evap cool when temperature increases to *EVAP COOL # TIMER RSP*. If *EVAP COOL # TIMER RSP* is set to OFF, this function will be inactive. The *EVAP COOL # TIMER RSP* is adjusted in 0.1°F increments from OFF to 40.0°F.

Parameters 56-57:

LIGHT ON TIME 1-10

The *LIGHT ON TIME* is the beginning of an activation period. When lights are activated by *LIGHT ON TIME*, the variable lights come on by *LIGHT SOFT START/STOP* to *LIGHT LO INTENSITY* and the On/Off lights will come on. The *LIGHT ON TIME* is adjusted in 1 minute increments from 12:00A to 11:59P.

F2: ***LIGHT OFF TIME 1-10***

The *LIGHT OFF TIME #* is the end of the respective activation period. The *LIGHT OFF TIME #* is adjusted in 1 minute increments from 12:00A to 11:59P.

Notes for parameters 33-34:

-To deactivate an activation period, set the respective *LIGHT OFF TIME #* equal to the respective *LIGHT ON TIME #*.

-If the CLOCK is adjusted, the light cycles may not function as expected.

Parameter 58:

LIGHT LO INTENSITY TIME

The *LIGHT LO INTENSITY TIME* is used to establish the amount of time the light intensity will stay at *LIGHT LO INTENSITY*. At the end of *LIGHT LO INTENSITY TIME*, the light increases its intensity by *LIGHT SOFT START/STOP* to *LIGHT HI INTENSITY*. The *LIGHT LO INTENSITY TIME* is adjusted in 1 minute increments from 10 to 900 minutes.

F2: ***LIGHT LO INTENSITY***

The *LIGHT LO INTENSITY* is used to establish the lights' low intensity. The *LIGHT LO INTENSITY* is adjusted in 1% increments from OFF, 1 to 100%.

F2: ***LIGHT HI INTENSITY TIME***

The *LIGHT HI INTENSITY TIME* is used to establish the amount of time the light intensity will stay at *LIGHT HI INTENSITY*. At the end of *LIGHT HI INTENSITY TIME*, the light decreases its intensity by *LIGHT SOFT START/STOP* to *LIGHT LO INTENSITY*. The *LIGHT HI INTENSITY TIME* is adjusted in 1 minute increments from OFF, 1 to 90 min.

F2: ***LIGHT HI INTENSITY***

The *LIGHT HI INTENSITY* is used to establish the lights' high intensity. *LIGHT HI INTENSITY* is adjusted in 1% increments from OFF, 1 to 100%.

F2: ***LIGHT SOFT START/STOP***

This time is used to set the duration of time for the lights to modulate from their minimum intensity (OFF or *LIGHT LO INTENSITY*) to their maximum intensity (*LIGHT LO INTENSITY* or *LIGHT HI INTENSITY*) or from their maximum intensity (*LIGHT HI INTENSITY* or *LIGHT LO INTENSITY*) to their minimum intensity (*LIGHT LO INTENSITY* or OFF). The *LIGHT SOFT START/STOP* is adjusted in 1 minute increments from OFF, 1 to 20 minutes.

Ex: ***LIGHT SOFT START/STOP*** = 1 min,
LIGHT LO INTENSITY TIME = 10 min,
LIGHT LO INTENSITY = 25%,
LIGHT HI INTENSITY = 75%,
LIGHT HI INTENSITY TIME = 3 min.
LIGHT ON TIME 1= 3:00A,
LIGHT OFF TIME 1 = 5:00A.

At 2:59A, the light is OFF.

First Step…

-Between 3:00A and 3:01, the light increases its intensity from 0% to 25%.

Others steps...

-The lights stay at 25% for 10 minutes. When the 10 minutes is elapsed, the light increases its intensity from 25% to 75%. For 1 minute after that, the light intensity stays at 75% for 3 min. When 3 minutes is elapsed, the light intensity decreases from 75% to 25% for 1 minute.

These steps continue cycling like a recycle timer until the clock reaches 4:59A, lights will then decrease their intensity from where it was at 4:59A to 0%.

Notes: -All settings must be set out of an activation period and all activation periods can't overlap otherwise unwanted light conditions may happen.
-At the return of a power failure, the lights will restart at the beginning of the cycle and will stop at *LIGHT OFF TIME*.

Parameters 59-60 (total of 10 periods for feed):

FEED ON TIME 1-10

The *FEED ON TIME* # is the beginning of an activation period. The *FEED ON TIME #* is adjusted in 1 minute increments from 12:00A to 11:59P.

F2: ***FEED OFF TIME 1-10***

The *FEED OFF TIME #* is the end of an activation period. The *FEED OFF TIME #* is adjusted in 1 minute increments from 12:00A to 11:59P.

Note: -To deactivate an activation period, set the respective *FEED OFF TIME #* equal to the respective *FEED ON TIME #.*

Parameter 61:

This parameter is to establish the time where the evap cools may be activated. When the CLOCK is between *EVAP COOL CLOCK ON* and *EVAP COOL CLOCK OFF,* evap cools can be turned ON if there is a demand. Outside this time, evap cools will not be allowed to function.

EVAP COOL CLOCK ON

The *EVAP COOL CLOCK ON* is adjusted in 1 minute increments from 12:00A to 11:59P.

F2: ***EVAP COOL CLOCK OFF***

The *EVAP COOL CLOCK OFF* is adjusted in 1 minute increments from 12:00A to 11:59P.

Parameter 62:

RAMPING MAIN SET POINT ON/OFF

Since there are water and feed histories in this configuration, two *MSP* are needed. One that will follow the RAMPING DAY and the other that will not, even if the RAMPING DAY is active. If this setting is set to ON, the logics will follow the *MSP (RAMPING)* otherwise, if it is set to OFF, the logics will follow the *MSP (NO RAMP.)*

Parameter 63:

RAMPING DAY

This parameter displays the current day. The value displayed goes from OFF, day 1 to day 127.

F2: ***ADJUST VALUE***

This is to adjust the ramping day. Ramping day can be turned OFF. **When starting a new flock, the RAMPING DAY must be set to 1. If not set to 1. The history features might not work as expected.**

Parameter 64:

Refer to section 3 for other information and alarm conditions.

ALARM LO TEMP RSP

This RSP establishes the low temperature limit. Below this limit, an alarm occurs. The *ALARM LO TEMP RSP* is adjusted in 0.5°F increments from -30.0°F to -1.0°F.

F2: ***ALARM HI TEMP RSP***

This RSP establishes the high temperature limit in minimum ventilation mode. Above this limit, an alarm occurs. The *ALARM HI TEMP RSP* is adjusted in 0.5°F increments from 0.0°F to 40.0°F.

F2: ***ALARM TUNNEL HI TEMP RSP***

This RSP establishes the high temperature limit in tunnel mode. Above this limit, an alarm occurs. The *ALARM TUNNEL HI TEMP RSP* is adjusted in 0.1°F increments from 0.0°F to 40.0°F.

F2: ***ALARM WATER***

This parameter establishes the gallons limit distribution per minute. Above this limit, an alarm occurs. The *WATER ALARM* is adjusted in 1 gallon increments from OFF, 1 to 15 gallons.

F2: ***ALARM FEED***

This sets the delay the feed system is allowed to run (feed sensor reads ON) before activating the alarm. When there is a feed alarm condition, the alarm will be activated and an LCD message will appear. To clear that alarm condition, refer to parameter 72. The *ALARM FEED* is adjusted in 1 minute increments from OFF, 1 to 30 minutes.

F2: ***ALARM BREAKER***

This parameter establishes the temperature limit for the breaker. Above this limit, an alarm occurs. If set to OFF, no breaker alarms will occur. The *ALARM BREAKER* is adjusted in 0.5°F increments from OFF, 80.0°F to 160.0°F.

Parameter 65:

SENSOR SELECT 1

All outputs that are mentioned in this parameter must have an associated temperature. The temperatures associated to these outputs are a combination of 1 to 6 temperature sensors. Refer to parameter table for a listing of the 63 possibilities.

F2: Gives the access to the other outputs.

Parameter 66:

SENSOR SELECT 2

All outputs that are mentioned in this parameter must have an associated temperature. The temperatures associated to these outputs are a combination of 6 temperature sensors. Refer to parameter table for a listing of the 63 possibilities.

F2: Gives the access to the other outputs.

F2: ***SENSOR SELECT 2 TEMP ALARM***

This parameter gives the opportunity to activate the alarm for the sensors that are selected or, deactivate it for the sensors that are not selected. If any sensor is used in any other *SENSOR SELECT #* parameter, the message "*Sens. Not Connect. To Temp Alarm*" will appear. This check is made only at midnight and only once each day. Refer to parameter table for a listing of the 63 possibilities.

F2: ***SENSOR SELECT 2 AVG ROOM TEMP & MIN VENT***

Also this is the average temperature that is represented at parameter 1. The temperature for this parameter is a combination of 6 temperature sensors. Refer to parameter table for a listing of the 63 possibilities.

Parameter 67:

SIDEWALL FAN STOP

This setting is used to establish at which tunnel stage the sidewall fans will deactivate. When the tunnel stage selected at *SIDEWALL FAN STOP* is activated, all the sidewall fans will **deactivate**. They will reactivate when the tunnel stage selected at *SIDEWALL FAN STOP* shuts OFF. The *SIDEWALL FAN STOP* is adjusted in 1 step increments from OFF to 10. See parameter table for a listing of the 11 possibilities.

Ex. See parameter 67, *DELAY BEFORE TUNNEL* for example.

F2: ***TUNNEL INLET HELP***

This setting is used to establish at which tunnel stage the vent will open and tunnel inlet will follow the static pressure. When the temperature increases and reaches the tunnel fan selected at *TUNNEL INLET HELP*, the vent opens continuously and tunnel inlet follows the static pressure. When the temperature decreases and reaches the differential of the fan selected at *TUNNEL INLET HELP*, the vent will follow the static pressure sensor and tunnel inlet will close continuously. If *TUNNEL INLET HELP* is set to OFF, this function will be inactive. The *TUNNEL INLET HELP* is adjusted in 1 step increments from OFF to 10. See parameter table for a listing of the 11 possibilities.

Ex. See parameter 67, *DELAY BEFORE TUNNEL* for example.

F2: ***TUNNEL START***

This setting is used to establish at which tunnel stage the tunnel mode will begin (minimum ventilation ends). Once the selected stage deactivates, minimum ventilation will restart (tunnel ends). If *TUNNEL START* is set to OFF, sidewall fans will not deactivate and no tunnel will be done. The *TUNNEL START* is adjusted in 1 step increments from OFF to 10. See parameter table for a listing of the 11 possibilities.

Ex. See parameter 67, *DELAY BEFORE TUNNEL* for example.

F2: ***DELAY BEFORE TUNNEL***

When temperature reaches the respective stage selected at *TUNNEL START*, this is what happens: *DELAY BEFORE TUNNEL* is activated, tunnel inlet opens, sidewall fans are deactivated, respective tunnel fans except the stage selected at *TUNNEL START* are deactivated, the vent holds its present position. After the *DELAY BEFORE TUNNEL* has expired, respective tunnel fans are reset to the state they were before entering in tunnel mode, tunnel inlet follows static pressure sensor and vent closes continuously. The *DELAY BEFORE TUNNEL* is adjusted in 1 second increments from 1 seconds to 300 seconds.

Ex: ***SIDEWALL FAN STOP*** = 2 (Tun fan 2),
TUNNEL INLET HELP = 3, (Tun fan 3),
TUNNEL START = 5 (Tun fan 5),
TUNNEL FAN 2 RSP = 5.0°F,
TUNNEL FAN 3 RSP = 7.0°F,
TUNNEL FAN 5 RSP = 8.0°F,
MSP = 70.0°F,
All ***DIFF*** = 1.0°F,

- At 75.0°F, all sidewall fans are deactivated.
- At 77.0°F, vent opens continuously and tunnel inlet follows static pressure sensor.
- At 78.0°F, *DELAY BEFORE TUNNEL* is activated; all tunnel fans are deactivated except tunnel fan 5. The vent holds its present position and tunnel inlet opens. After the *DELAY BEFORE TUNNEL* has expired, tunnel fans, evap cool and fog are allowed to function, vent closes and tunnel inlet follow stat press. Control is now in tunnel mode.
- When temperature decreases to 77.0°F, the vent opens, tunnel inlet follows the static pressure sensor, tunnel fans follow their RSPs and sidewall fans stay deactivated.
- When temperature decreases to 76.0°F, vent follows the static pressure sensor and tunnel inlet closes continuously.
- When temperature decreases to 74.0°F, sidewall fans are allowed to reactivate.

F2: ***DELAY AFTER TUNNEL***

TUNNEL INLET HELP overrides this parameter if set to ON.

This delay establishes the time the vent inlet must opens continuously when the system exit the tunnel mode. When the temperature decreases and reach the differential of the tunnel fan selected at *TUNNEL START* (end of tunnel mode), the *DELAY AFTER TUNNEL* is activated, the vent inlet opens continuously and the tunnel inlet closes and the sidewall fans are reactivated, tunnel fans are reset to the state they were before entering in tunnel mode. Once the delay has expired, the vent inlet follows static pressure sensor. The *DELAY AFTER TUNNEL* is adjusted in 1 second increments from 1 second to 300 seconds.

- When the tunnel stage selected at *TUNNEL START* is turned off (exit tunnel mode), the vent inlet opens during the *DELAY AFTER TUNNEL* **.**
- Once *DELAY AFTER TUNNEL* is finished, the inlet will be controlled by the static pressure.
- The time the inlet takes to open enough to prevent a static pressure surge must be set in *DELAY AFTER TUNNEL*. Note that the opening time of the inlet is reduced by the *DELAY CLOSE/OPEN*.
- When a high pressure alarm condition occurs, the tunnel inlet will be forced to follow the static pressure no matter in what ventilation mode the system is. This will be enabled until the user clears the alarm condition.

Parameter 68:

TEMP SENSOR 1 BACKUP

F2: ***TEMP SENSOR 2 BACKUP***

F2: ***TEMP SENSOR 3 BACKUP***

F2: ***TEMP SENSOR 4 BACKUP***

F2: ***TEMP SENSOR 5 BACKUP***

F2: ***TEMP SENSOR 6 BACKUP***

These parameters allow the selection of a backup sensor for each temperature sensor. This means if a sensor becomes defective or is malfunctioning, the system will use the backup sensor instead. If the backup sensor is also defective, system will act as if reading were equal to the *MAIN SET POINT* instead. Refer to parameter table for a listing of the 6 possibilities.

Parameter 69:

OUTPUT NO/NC SELECT 1

F2: ***OUTPUT 2 / VENT OPEN***

F2: ***OUTPUT 4 / TUNNEL OPEN***

F2: ***OUTPUT 11 / SIDEWALL FAN 1***

F2: ***OUTPUT 12 / SIDEWALL FAN 2***

F2: ***OUTPUT 13 / SIDEWALL FAN 3***

F2: ***OUTPUT 14 / SIDEWALL FAN 4***

F2: ***OUTPUT 15 / SIDEWALL FAN 5***

F2: ***OUTPUT 16 / SIDEWALL FAN 6***

These settings give the opportunity to have a normally open or normally close relay for the output.

Parameter 70:

OUTPUT NO/NC SELECT 2

F2: ***OUTPUT 17 / TUNNEL FAN 1***

F2: ***OUTPUT 18 / TUNNEL FAN 2***

F2: ***OUTPUT 19 / TUNNEL FAN 3***

F2: ***OUTPUT 20 / TUNNEL FAN 4***

F2: ***OUTPUT 21 / TUNNEL FAN 5***

F2: ***OUTPUT 22 / TUNNEL FAN 6***

F2: ***OUTPUT 23 / TUNNEL FAN 7***

F2: ***OUTPUT 24 / TUNNEL FAN 8***

F2: ***OUTPUT 25 / TUNNEL FAN 9***

F2: ***OUTPUT 26 / TUNNEL FAN 10***

F2: ***OUTPUT 27 / FAN OVERRIDE***

These settings give the opportunity to have a normally open or normally close relay for the output.

Parameter 71:

FULL ACCESS

When the supervisor mode is OFF, this means that the user has full access (SUPERVISOR LOCK OFF) to all adjustable parameters. In other words, all parameters, which are adjustable by the user, including the protected parameters, will be visible and flashing.

When the supervisor mode is ON, this means that the user does not have full access (SUPERVISOR LOCK ON) to all adjustable parameters. In other words, if certain parameters are hidden in the supervisor mode, they will remain invisible to the user, and the parameters protected by the supervisor code will not flash, indicating that no modification can be performed on these parameters.

Su: ON	=	SUPERVISOR LOCK ON
Su: OFF	=	SUPERVISOR LOCK OFF

To alter the supervisor mode, follow the code entry procedure indicated below:

SUPERVISOR CODE: 69 73 75

1. The LED display of this parameter show if the supervisor is SUPERVISOR LOCK ON (Su: ON) or SUPERVISOR LOCK OFF (Su: OFF).
2. To change the state of the supervisor mode, press F2 button. The LED display will shows "1: 00", at this moment, enter the **first** number of the supervisor code;
3. Press F2 again, the LED display will shows "2: 00", at this moment, enter the **second** number of the supervisor code;
4. Press F2 again, the LED display will shows "3: 00", at this moment, enter the **third** number of the supervisor code;
5. Finally, press F3 to valid the code entered.
6.

If the code entered is incorrect, "ERR" will appear on the LED display. At this point, verify the supervisor code and retry the code entry procedure.

Parameter 72:

CLEAR ALARMS

This parameter gives the possibility to reinitialize alarm once it is activated. The alarm can be cleared out manually by setting the parameter *CLEAR ALARMS* to CLR for at least 10 seconds and **readjusting it to 0** after the alarm is cleared. If *CLEAR ALARMS* stays to CLR, the alarm will never be allowed to activate and the message "*CLR Alarms Must Be Set To 0 "* will be displayed on the LCD display after 30 seconds.

3. ALARM

The alarm relay is normally activated, but it will deactivate 26 sec or more after one of the following events occurred:

a. AVS-1032 loses its power.
b. Room temperature selected in *TEMP SENSOR SELECT 2 AVG ROOM TEMP & MIN VENT* exceeds the limits *ALARM HI* or *LO TEMP RSP.*
c. A sensor in *TEMP SENSOR 2 SELECT TEMP ALARM* is unplugged or defective.
d. A sensor in *TEMP SENSOR 2 SELECT TEMP ALARM* for the alarm varied more than 20.0°F /minute.
e. A sensor in *TEMP SENSOR 2 SELECT TEMP ALARM* exceeds the limits *ALARM HI* or *LO TEMP RSP.*
f. Static pressure sensor is below the *STATIC PRESS LO ALARM SP* for more than the *ALARM DELAY LO STAT PRESS*. There is an alarm satisfy time which allows the static pressure to return above *STATIC PRESS LO ALARM SP* for a period of time of 10 sec without resetting the *ALARM DELAY LO STAT PRESS*. It is possible to deactivate the *STATIC PRESS LO ALARM SP* by setting it to OFF.
g. Static pressure sensor is above the *STATIC PRESS HI ALARM SP* for more than the *ALARM DELAY HI STAT PRESS*. There is an alarm satisfy time which allows the static pressure to return below *STATIC PRESS HI ALARM SP* for a period of time of 10 sec without resetting the *ALARM DELAY HI STAT PRESS*.
h. Breaker is above *ALARM BREAKER* or is malfunctioning (if *OPTION BREAKER TEMP* is set to ON).
i. The number of water gallons in 1 minute is above *ALARM WATER*.
j. Feeder is activated for more than *ALARM FEED.*

Notes:

- If an inside temperature becomes defective (open / short circuit or unplugged), the control will not compute this sensor and will take its backup for average temperature and the readout of this sensor will be ERR.

- If a sensor selected in *TEMP SENSOR SELECT 2 TEMP ALARM* is 20.0°F below the main set point, it will be considered a non-valid reading and read that probes' backup sensor instead.

- If a probe and its backup sensor are both defective, system will act as if that reading were equal to the *MAIN SET POINT* when calculating temperatures.

ATTACHMENTS

- Parameter table
- Label
- Wiring diagram

PARAMETER TABLE

DESCRIPTION			CONTROL VALUES				
		Restriction*	MIN	MAX	PRESET		
1. AVG ROOM TEMPERATURE	**deg. F**		-6.0	168.6	PRB1-6		
F2: Choose Hi/Lo	deg. F	none	Lo	Hi	Lo		
F3: Result	deg. F	CLR	-6.0	168.6			
2. TEMP SENSOR 1	**deg. F**		-6.0	168.6			
F2: Temp Sensor Input	deg. F		-6.0	168.6	PRB1		
F3: Temp Hi/Lo	deg. F	CLR	-6.0	168.6			
3. TEMP SENSOR 2	**deg. F**		-6.0	168.6			
F2: Temp Sensor Input	deg. F		-6.0	168.6	PRB2		
F3: Temp Hi/Lo	deg. F	CLR	-6.0	168.6			
4. TEMP SENSOR 3	**deg. F**		-6.0	168.6			
F2: Temp Sensor Input	deg. F		-6.0	168.6	PRB3		
F3: Temp Hi/Lo	deg. F	CLR	-6.0	168.6			
5. TEMP SENSOR 4	**deg. F**		-6.0	168.6			
F2: Temp Sensor Input	deg. F		-6.0	168.6	PRB4		
F3: Temp Hi/Lo	deg. F	CLR	-6.0	168.6			
6. TEMP SENSOR 5	**deg. F**		-6.0	168.6			
F2: Temp Sensor Input	deg. F		-6.0	168.6	PRB5		
F3: Temp Hi/Lo	deg. F	CLR	-6.0	168.6			
7. TEMP SENSOR 6	**deg. F**		-6.0	168.6	BPRB1		
F2: Choose Hi/Lo	deg. F	none	Lo	Hi	Lo		
F3: Result	deg. F	CLR	-6.0	168.6			
8. OUTSIDE TEMP	**deg. F**		-6.0	168.6	BPRB2		
F2: Choose Hi/Lo	deg. F		Lo	Hi	Lo		
F3: Result	deg. F	CLR	-6.0	168.6			
9. STATIC PRESS	**"WC**		0.000	0.200			
F2: Static Pressure Input	**"WC**		0.000	0.200	PRB8		
F2: Static Pressure Hi/Lo	**"WC**	CLR	0.000	0.200			
10. HUMIDITY SENSOR	**RH%**		10	90	BPRB4		
11. BREAKER TEMP	**deg. F**		-6.0	168.6	BPRB3		
12. TODAY WATER USED	**gal**		0	9999	PRB7		
F3: Daily History (when Ramping ON)	gal	CLR	1/0	70/9999			
13. TOTAL WATER USED	**gal x10**		0	32750			
14. FEED ACTIVE	**on/off**		OFF	ON			
15. TODAY FEED TIME	**min**		0	2500	PRB6		
F3: Daily History Feed Time	day/min	CLR	1/0	70/1440			
16. FEED SELECT HISTORY DAY	**day**	none	1	70	1		
17. FEED HISTORY DAY SELECTED	**lbs**		0	32750			
18. FEED TOTAL POUNDS	**lbs x 10**		0	32750			
19. FEED CALIBRATION	**lbs/min**	none	1	500	50		
20. CLOCK	**hh:mm**		12:00A	11:59P	12:00A		

DESCRIPTION			CONTROL VALUES												
		Restriction*	MIN	MAX	PRESET										
F2: Adjust Value (Minutes)	min	none	00	59											
F3: Adjust Value (Hours)	hrs	none	12A	11P											
21. MAIN SET POINT (No Ramping)	**deg. F**	none	32.0	120.0	70.0										
22. MAIN SET POINT (Ramping)	**deg. F**		32.0	120.0	70.0										
F2: Adjust Value (8 Day points)	day	none	1	127	1	3	7	14	21	28	30	42	49	54	
F3: Adjust Value (8 Temperature points)	deg. F	none	32.0	120.0	88	88	85	80	78	76	74	74	74	74	
23. VENT STATIC PRESS LO SP	**“WC**	none	0.000	0.200	0.070										
F2: Vent Static Press HI SP	“WC	none	0.000	0.200	0.090										
F2: Tunnel Static Press LO SP	“WC	none	0.000	0.200	0.060										
F2: Tunnel Static Press HI SP	“WC	none	0.000	0.200	0.080										
F2: Stat Press LO SP Temp Override	“WC	none	0.000	0.200	0.050										
F2: Stat Press HI SP Temp Override	“WC	none	0.000	0.200	0.070										
F2: Stat Press Temp Override RSP	deg. F	none	0.0	20.0	5.0										
F2: Full Open Temp Override RSP	deg. F	none	0.0	20.0	10.0										
F2: Temp. Override Diff	deg. F	none	0.0	10.0	2.0										
24. ALARM DELAY LO STAT PRESS	**sec**	none	10	900	300										
F2: Alarm Delay Hi Stat Press	sec	none	10	900	60										
F2: Static Press LO Alarm SP	“WC	none	0.005	0.100	0.020										
F2: Static Press HI Alarm SP	“WC	none	0.050	0.200	0.100										
F2: Static Press LO Alarm Output	on/off	none	OFF	ON	ON										
F2: Delay Close/Open	sec	none	0	30	5										
F2: Avg Fan Cycles	cycles	none	1	5	2										
F2: Static Press Range = 1 sec	“WC	none	0.002	0.020	0.010										
25. VENT OPEN TIME BEF FAN ON	**sec**		1	120	15										
26. VENT OPEN TIME RESET VALUE	**sec**	none	1	120	15										
F2: Reset/Man Override Vent On Time		none	AUTO	CLR	AUTO										
27. HEAT 1 RSP	**deg. F**	none	-50.0	0.0	-2.0										
F2: Heat 1 Diff.	deg. F	none	0.5	10.0	1.0										
28. HEAT 2 RSP	**deg. F**	none	-50.0	0.0	-2.0										
F2: Heat 2 Diff.	deg. F	none	0.5	10.0	1.0										
29. HEAT 3 RSP	**deg. F**	none	-50.0	0.0	-2.0										
F2: Heat 3 Diff.	deg. F	none	0.5	10.0	1.0										
30. HEAT 4 RSP	**deg. F**	none	-50.0	0.0	-2.0										
F2: Heat 4 Diff.	deg. F	none	0.5	10.0	1.0										
31. HEAT 5 RSP	**deg. F**	none	-50.0	0.0	-2.0										
F2: Heat 5 Diff.	deg. F	none	0.5	10.0	1.0										
32. HEAT 6 RSP	**deg. F**	none	-50.0	0.0	-2.0										
F2: Heat 6 Diff.	deg. F	none	0.5	10.0	1.0										
33. MIN VENT TIME ON	**sec**	none	10	900	30										

DESCRIPTION			CONTROL VALUES				
		Restriction*	MIN	MAX	PRESET		
F2: Add Time 1.0°F Above SP	sec	none	OFF, 3	60	15		
F2: Add Time 1.5°F Above SP	sec	none	OFF, 3	60	15		
F2: Min Vent. Cycle Time	min	none	1	15	5		
34. SIDEWALL FAN 1 RSP	**deg. F**	none	0.0	20.0	2.0		
F2: Sidewall Fan 1 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Sidewall Fan 1 Timer		none	OFF	2	1		
35. SIDEWALL FAN 2 RSP	**deg. F**	none	0.0	20.0	3.0		
F2: Sidewall Fan 2 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Sidewall Fan 2 Timer		none	OFF	2	OFF		
36. SIDEWALL FAN 3 RSP	**deg. F**	none	0.0	20.0	4.0		
F2: Sidewall Fan 3 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Sidewall Fan 3 Timer		none	OFF	2	OFF		
37. SIDEWALL FAN 4 RSP	**deg. F**	none	0.0	20.0	5.0		
F2: Sidewall Fan 4 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Sidewall Fan 4 Timer		none	OFF	2	OFF		
38. SIDEWALL FAN 5 RSP	**deg. F**	none	0.0	20.0	6.0		
F2: Sidewall Fan 5 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Sidewall Fan 5 Timer		none	OFF	2	OFF		
39. SIDEWALL FAN 6 RSP	**deg. F**	none	0.0	20.0	7.0		
F2: Sidewall Fan 6 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Sidewall Fan 6 Timer		none	OFF	2	OFF		
40. TUNNEL FAN 1 RSP	**deg. F**	none	0.0	40.0	8.0		
F2: Tunnel Fan 1 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Tunnel Fan 1 Timer		none	OFF	2	2		
41. TUNNEL FAN 2 RSP	**deg. F**	none	0.0	40.0	9.0		
F2: Tunnel Fan 2 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Tunnel Fan 2 Timer		none	OFF	2	OFF		
42. TUNNEL FAN 3 RSP	**deg. F**	none	0.0	40.0	10.0		
F2: Tunnel Fan 3 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Tunnel Fan 3 Timer		none	OFF	2	OFF		
43. TUNNEL FAN 4 RSP	**deg. F**	none	0.0	40.0	11.0		
F2: Tunnel Fan 4 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Tunnel Fan 4 Timer		none	OFF	2	OFF		
44. TUNNEL FAN 5 RSP	**deg. F**	none	0.0	40.0	12.0		
F2: Tunnel Fan 5 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Tunnel Fan 5 Timer		none	OFF	2	OFF		
45. TUNNEL FAN 6 RSP	**deg. F**	none	0.0	40.0	13.0		
F2: Tunnel Fan 6 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Tunnel Fan 6 Timer		none	OFF	2	OFF		
46. TUNNEL FAN 7 RSP	**deg. F**	none	0.0	40.0	14.0		

DESCRIPTION			CONTROL VALUES				
		Restriction*	MIN	MAX	PRESET		
F2: Tunnel Fan 7 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Tunnel Fan 7 Timer		none	OFF	2	OFF		
47. TUNNEL FAN 8 RSP	**deg. F**	none	0.0	40.0	15.0		
F2: Tunnel Fan 8 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Tunnel Fan 8 Timer		none	OFF	2	OFF		
48. TUNNEL FAN 9 RSP	**deg. F**	none	0.0	40.0	16.0		
F2: Tunnel Fan 9 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Tunnel Fan 9 Timer		none	OFF	2	OFF		
49. TUNNEL FAN 10 RSP	**deg. F**	none	0.0	40.0	17.0		
F2: Tunnel Fan 10 Diff.	deg. F	none	0.5	10.0	1.0		
F3: Tunnel Fan 10 Timer		none	OFF	2	OFF		
50. HIGH TEMP OVR SP	**deg. F**	none	32.0	120.0	90.0		
F2: Sidewall 4 High Temp Ovr	on/off	none	OFF	ON	OFF		
F2: Sidewall 5 High Temp Ovr	on/off	none	OFF	ON	OFF		
F2: Sidewall 6 High Temp Ovr	on/off	none	OFF	ON	OFF		
51. FAN OVERRIDE RSP	**deg. F**	none	0.0	40.0	20.0		
F2: Fan Override Diff.	deg. F	none	0.5	10.0	2.0		
52. EVAP COOL TIME ON	**sec**	none	OFF, 3	300	120		
F2: Evap Cool Cycle Time	min	none	1	15	5		
53. EVAP COOL 1 RSP	**deg. F**	none	0.0	40.0	18.0		
F2: Evap Cool 1 Diff.	deg. F	none	0.5	30.0	2.0		
F2: Evap Cool 1 Timer RSP	deg. F	none	OFF, 0.0	40.0	OFF		
54. EVAP COOL 2 RSP	**deg. F**	none	0.0	40.0	19.0		
F2: Evap Cool 2 Diff.	deg. F	none	0.5	30.0	2.0		
F2: Evap Cool 2 Timer RSP	deg. F	none	OFF, 0.0	40.0	OFF		
55. EVAP COOL 3 RSP	**deg. F**	none	0.0	40.0	20.0		
F2: Evap Cool 3 Diff.	deg. F	none	0.5	30.0	2.0		
F2: Evap Cool 3 Timer RSP	deg. F	none	OFF, 0.0	40.0	OFF		
56. LIGHTS ON TIME 1	**hh:mm**	none	12:00A	11:59P	2:00A		
F2: Light OFF Time 1	hh:mm	none	12:00A	11:59P	2:00A		
F2: Light ON Time 2	hh:mm	none	12:00A	11:59P	4:00A		
F2: Light OFF Time 2	hh:mm	none	12:00A	11:59P	4:00A		
F2: Light ON Time 3	hh:mm	none	12:00A	11:59P	6:00A		
F2: Light OFF Time 3	hh:mm	none	12:00A	11:59P	6:00A		
F2: Light ON Time 4	hh:mm	none	12:00A	11:59P	8:00A		
F2: Light OFF Time 4	hh:mm	none	12:00A	11:59P	8:00A		
F2: Light ON Time 5	hh:mm	none	12:00A	11:59P	10:00A		
F2: Light OFF Time 5	hh:mm	none	12:00A	11:59P	10:00A		
57. LIGHT ON TIME 6	**hh:mm**	none	12:00A	11:59P	2:00P		

DESCRIPTION			CONTROL VALUES				
		Restriction*	MIN	MAX	PRESET		
F2: Light OFF Time 6	hh:mm	none	12:00A	11:59P	2:00P		
F2: Light ON Time 7	hh:mm	none	12:00A	11:59P	4:00P		
F2: Light OFF Time 7	hh:mm	none	12:00A	11:59P	4:00P		
F2: Light ON Time 8	hh:mm	none	12:00A	11:59P	6:00P		
F2: Light OFF Time 8	hh:mm	none	12:00A	11:59P	6:00P		
F2: Light ON Time 9	hh:mm	none	12:00A	11:59P	8:00P		
F2: Light OFF Time 9	hh:mm	none	12:00A	11:59P	8:00P		
F2: Light ON Time 10	hh:mm	none	12:00A	11:59P	10:00P		
F2: Light OFF Time 10	hh:mm	none	12:00A	11:59P	10:00P		
58. LIGHT LO INTENSITY TIME	**min**	none	10	900	60		
F2: Light Lo Intensity	%	none	OFF, 1	100	25		
F2: Light Hi Intensity Time	min	none	OFF, 1	90	10		
F2: Light Hi Intensity	%	none	OFF, 1	100	75		
F2: Light Soft Start/Stop	min	none	OFF, 1	20	10		
59. FEED ON TIME 1	**hh:mm**	none	12:00A	11:59P	2:00A		
F2: Feed OFF Time 1	hh:mm	none	12:00A	11:59P	2:00A		
F2: Feed ON Time 2	hh:mm	none	12:00A	11:59P	4:00A		
F2: Feed OFF Time 2	hh:mm	none	12:00A	11:59P	4:00A		
F2: Feed ON Time 3	hh:mm	none	12:00A	11:59P	6:00A		
F2: Feed OFF Time 3	hh:mm	none	12:00A	11:59P	6:00A		
F2: Feed ON Time 4	hh:mm	none	12:00A	11:59P	8:00A		
F2: Feed OFF Time 4	hh:mm	none	12:00A	11:59P	8:00A		
F2: Feed ON Time 5	hh:mm	none	12:00A	11:59P	10:00A		
F2: Feed OFF Time 5	hh:mm	none	12:00A	11:59P	10:00A		
60. FEED ON TIME 6	**hh:mm**	none	12:00A	11:59P	2:00P		
F2: Feed OFF Time 6	hh:mm	none	12:00A	11:59P	2:00P		
F2: Feed ON Time 7	hh:mm	none	12:00A	11:59P	4:00P		
F2: Feed OFF Time 7	hh:mm	none	12:00A	11:59P	4:00P		
F2: Feed ON Time 8	hh:mm	none	12:00A	11:59P	6:00P		
F2: Feed OFF Time 8	hh:mm	none	12:00A	11:59P	6:00P		
F2: Feed ON Time 9	hh:mm	none	12:00A	11:59P	8:00P		
F2: Feed OFF Time 9	hh:mm	none	12:00A	11:59P	8:00P		
F2: Feed ON Time 10	hh:mm	none	12:00A	11:59P	10:00P		
F2: Feed OFF Time 10	hh:mm	none	12:00A	11:59P	10:00P		
61. EVAP COOL CLOCK ON	**hh:mm**	none	12:00A	11:59P	6:00A		
F2: Evap Cool Clock OFF	hh:mm	none	12:00A	11:59P	9:00P		
62. RAMPING MAIN SET POINT	**on/off**	none	OFF	ON	OFF		
63. RAMPING DAY	**day**		OFF	127	OFF		
F2: Adjust Value	day	none	OFF	127	OFF		
64. ALARM LO TEMP RSP	**deg. F**	none	-30.0	-1.0	-10.0		

DESCRIPTION			CONTROL VALUES				
		Restriction*	MIN	MAX	PRESET		
F2: Alarm HI Temp RSP	deg. F	none	0.0	40.0	10.0		
F2: Alarm Tunnel Hi Temp RSP	deg. F	none	0.0	40.0	20.0		
F2: Alarm Water	gal/min	none	OFF, 1	15	5		
F2: Alarm Feed	min	none	OFF, 1	30	15		
F2: Alarm Breaker	deg. F	none	OFF, 80.0	160.0	OFF		
65. SENSOR SELECT							
F2: Heat 1		none	1	63	1		
F2: Heat 2		none	1	63	2		
F2: Heat 3		none	1	63	4		
F2: Heat 4		none	1	63	8		
F2: Heat 5		none	1	63	16		
F2: Heat 6		none	1	63	32		
F2: Sidewall Fan 1		none	1	63	63		
F2: Sidewall Fan 2		none	1	63	63		
F2: Sidewall Fan 3		none	1	63	63		
F2: Sidewall Fan 4		none	1	63	63		
F2: Sidewall Fan 5		none	1	63	63		
F2: Sidewall Fan 6		none	1	63	63		
F2: Tunnel Fan 1		none	1	63	63		
F2: Tunnel Fan 2		none	1	63	63		
F2: Tunnel Fan 3		none	1	63	63		
F2: Tunnel Fan 4		none	1	63	63		
66. SENSOR SELECT 2							
F2: Tunnel Fan 5		none	1	63	63		
F2: Tunnel Fan 6		none	1	63	63		
F2: Tunnel Fan 7		none	1	63	63		
F2: Tunnel Fan 8		none	1	63	63		
F2: Tunnel Fan 9		none	1	63	63		
F2: Tunnel Fan 10		none	1	63	63		
F2: Fan Override		none	1	63	63		
F2: Evap Cool 1		none	1	63	63		
F2: Evap Cool 2		none	1	63	63		
F2: Evap Cool 3		none	1	63	63		
F2: Temp Alarm		none	1	63	63		
F2: Avg. Room Temp & Min Vent		none	1	63	63		

TEMP SENSOR SELECT 1&2
VALUE =SENSOR(S)

1 =	1	**32** =	6
2 =	2	**33** =	Avg 1,6
3 =	Avg 1,2	**34** =	Avg 2,6
4 =	3	**35** =	Avg 1,2,6
5 =	Avg 1,3	**36** =	Avg 3,6
6 =	Avg 2,3	**37** =	Avg 1,3,6
7 =	Avg 1,2,3	**38** =	Avg 2,3,6
8 =	4	**39** =	Avg 1,2,3,6
9 =	Avg 1,4	**40** =	Avg 4,6
10 =	Avg 2,4	**41** =	Avg 1,4,6
11 =	Avg 1,2,4	**42** =	Avg 2,4,6
12 =	Avg 3,4	**43** =	Avg 1,2,4,6
13 =	Avg 1,3,4	**44** =	Avg 3,4,6
14 =	Avg 2,3,4	**45** =	Avg 1,3,4,6
15 =	Avg 1,2,3,4	**46** =	Avg 2,3,4,6
16 =	5	**47** =	Avg 1,2,3,4,6
17 =	Avg 1,5	**48** =	Avg 5,6
18 =	Avg 2,5	**49** =	Avg 1,5,6
19 =	Avg 1,2,5	**50** =	Avg 2,5,6
20 =	Avg 3,5	**51** =	Avg 1,2,5,6
21 =	Avg 1,3,5	**52** =	Avg 3,5,6
22 =	Avg 2,3,5	**53** =	Avg 1,3,5,6
23 =	Avg 1,2,3,5	**54** =	Avg 2,3,5,6
24 =	Avg 4,5	**55** =	Avg 1,2,3,5,6
25 =	Avg 1,4,5	**56** =	Avg 4,5,6
26 =	Avg 2,4,5	**57** =	Avg 1,4,5,6
27 =	Avg 1,2,4,5	**58** =	Avg 2,4,5,6
28 =	Avg 3,4,5	**59** =	Avg 1,2,4,5,6
29 =	Avg 1,3,4,5	**60** =	Avg 3,4,5,6
30 =	Avg 2,3,4,5	**61** =	Avg 1,3,4,5,6
31 =	Avg 1,2,3,4,5	**62** =	Avg 2,3,4,5,6
		63 =	Avg 1,2,3,4,5,6

67. SIDEWALL FAN STOP			OFF, 1	10	OFF		

Fan Stop/Help/Tun Start/Table

Set Value	Off	1	2	3	4	5	6	7	8	9	10
=Stop @ T.F.	0	1	2	3	4	5	6	7	8	9	10
=Help @ T.F.	0	1	2	3	4	5	6	7	8	9	10
=Start @ T.F.	0	1	2	3	4	5	6	7	8	9	10

DESCRIPTION		CONTROL VALUES					
	Restriction*	MIN	MAX	PRESET		
F2: Tunnel Inlet Help		OFF, 1	10	OFF		
F2: Tunnel Start		OFF, 1	10	OFF		
F2: Delay Before Tunnel sec	none	1	255	20		
F2: Delay After Tunnel sec	none	1	255	40		
68. TEMP SENSOR BACKUP						
F1: Temp Sensor 1	none	1	6	2		
F2: Temp Sensor 2	none	1	6	1		
F2: Temp Sensor 3	none	1	6	2		
F2: Temp Sensor 4	none	1	6	3		
F2: Temp Sensor 5	none	1	6	4		
F2: Temp Sensor 6	none	1	6	5		
69. OUTPUT NO/NC SELECT 1						
F2: Output 2/Vent Open NO=0/NC=1	none	0	1	1		
F2: Output 4/Tunnel Open NO=0/NC=1	none	0	1	1		
F2: Output 11/Sidewall Fan 1 NO=0/NC=1	none	0	1	0		
F2: Output 12/Sidewall Fan 2 NO=0/NC=1	none	0	1	1		
F2: Output 13/Sidewall Fan 3 NO=0/NC=1	none	0	1	1		
F2: Output 14/Sidewall Fan 4 NO=0/NC=1	none	0	1	1		
F2: Output 15/Sidewall Fan 5 NO=0/NC=1	none	0	1	0		
F2: Output 16/Sidewall Fan 6 NO=0/NC=1	none	0	1	0		
70. OUTPUT NO/NC SELECT 2						
F2: Output 17/Tunnel Fan 1 NO=0/NC=1	none	0	1	0		
F2: Output 18/Tunnel Fan 2 NO=0/NC=1	none	0	1	0		
F2: Output 19/Tunnel Fan 3 NO=0/NC=1	none	0	1	0		
F2: Output 20/Tunnel Fan 4 NO=0/NC=1	none	0	1	0		
F2: Output 21/Tunnel Fan 5 NO=0/NC=1	none	0	1	1		
F2: Output 22/Tunnel Fan 6 NO=0/NC=1	none	0	1	1		
F2: Output 23/Tunnel Fan 7 NO=0/NC=1	none	0	1	1		
F2: Output 24/Tunnel Fan 8 NO=0/NC=1	none	0	1	1		
F2: Output 25/Tunnel Fan 9 NO=0/NC=1	none	0	1	0		
F2: Output 26/Tunnel Fan 10 NO=0/NC=1	none	0	1	0		
F2: Output 27/Fan Override NO=0/NC=1	none	0	1	1		
71. FULL ACCESS	See parameter description for details.					
72. CLEAR ALARMS	none	0	CLR	0		

TEMP SENSOR BACKUP TABLE
VALUE = SENSOR
1 = 1
2 = 2
3 = 3
4 = 4
5 = 5
6 = 6

1. **Avg Room Temp**
2-7. **Temp Sensor 1-6**
8. **Outside Temp Sensor**
9. **Static Press Sensor**
10. **Humidity Sensor**
11. **Breaker Sensor**
12-13. **Water History**
14-19. **Feed History**
20. **Clock**
21-22. Main Set Points
23.-26. Static Vent Tun Alarm Delays
27-32. Heat 1-6
33. Min Vent Timer
34-39. Side Wall Fan 1-6
40-49. Tunnel Fans
50. Side Wall Hi Te

51. Fan Override
52-55. Evap Cool Timer & RSP
56-58. Light & Intensity
59-60. Feed
61. Evap Cool Clock
62-63. Ramping
64. Alarms
65-66. Temp Sensor Select 1&2
67. Fan Stop/Help/Tunnel Start
68. Temp Sensor Backup
69
71. Full Access
72. Clear Alarms

10A02F8

SENSOR SELECT TABLE
SENSOR(S) = VALUE

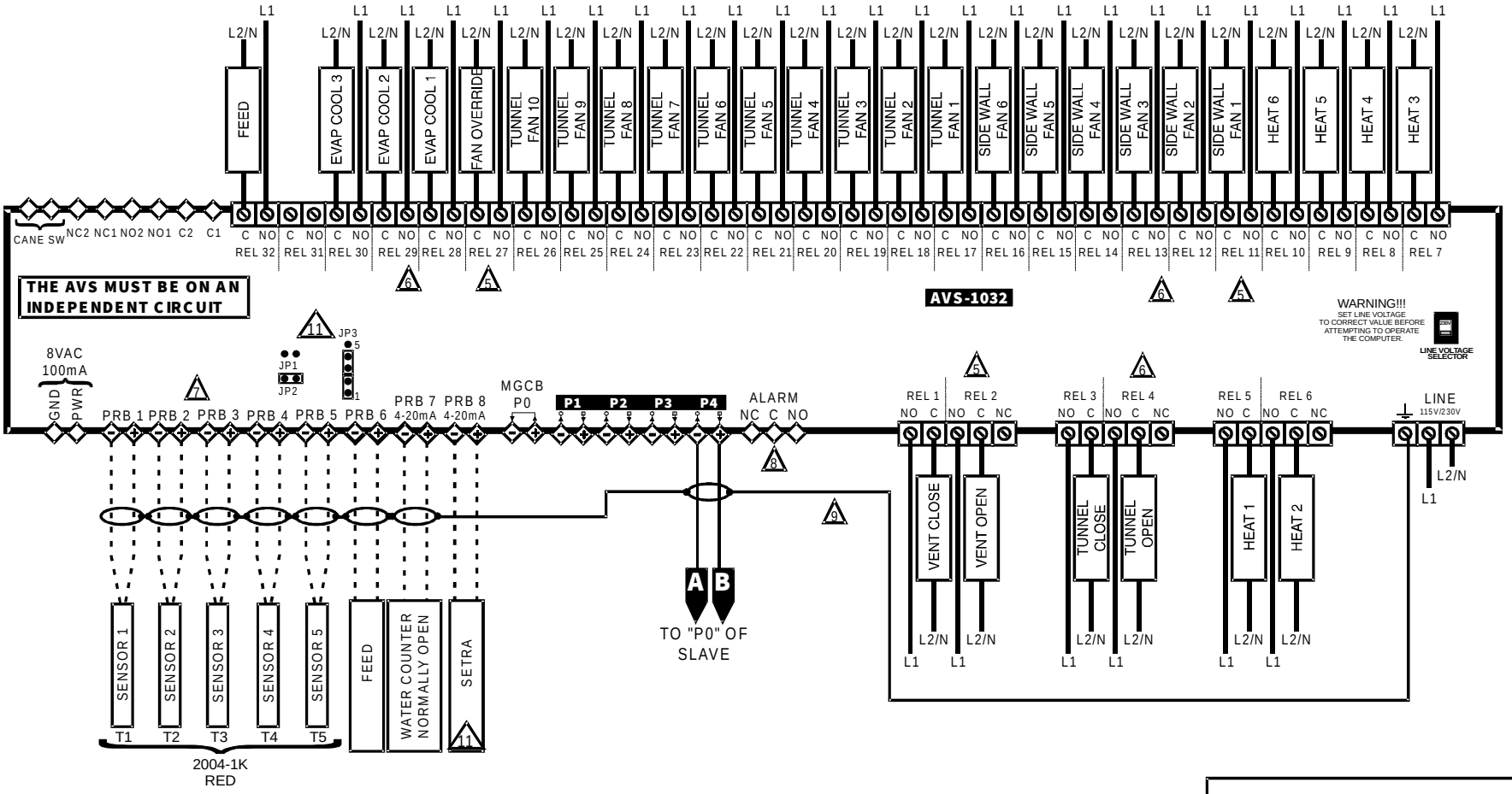
1	1	2345	30
12	3	23456	62
123	7	3	4
1234	15	34	12
12345	31	345	28
123456	63	3456	60
13	5	4	8
14	9	45	24
15	17	456	56
16	33	5	16
2	2	56	48
23	6	6	32
234	14		

Fan Stop/Tun Help/Tun Start/Table

Tun Fan = Set Value	Off	1	2	3	4	5	6	7	8	9	10
= Stop/Help/Start @ T.F	0	1	2	3	4	5	6	7	8	9	10

Vent Close
Vent Open
Tun Close
Tun Open
Heat 1
Heat 2
Heat 3
Heat 4
Heat 5
Heat 6
S W Fan 1
S W Fan 2
S W Fan 3
S W Fan 4
S W Fan 5
S W Fan 6
Tun Fan 1
Tun Fan 2
Tun Fan 3
Tun Fan 4
Tun Fan 5
Tun Fan 6
Tun Fan 7
Tun Fan 8
Tun Fan 9
Tun Fan 10
Fan Override
Evap Cool 1
Evap Cool 2
Evap Cool 3
Lights
Feed

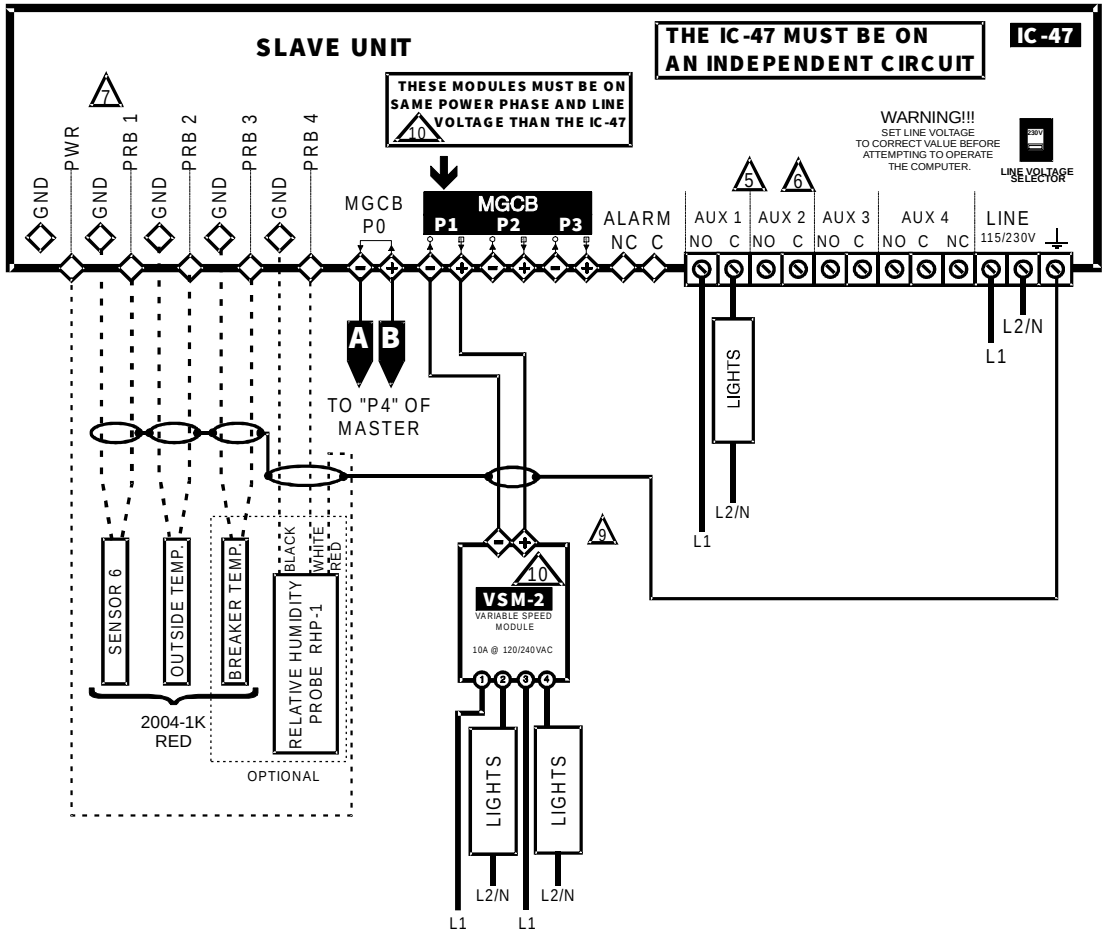
WIRING DIAGRAM CONFIGURATION 10A02F8



SEE NOTES ON PAGE 35

Agri Ventilation Systems, INC.			
WIRING DIAGRAM			
03/03/08	CONFIGURATION 10A02F8	WIR	REV 0

WIRING DIAGRAM CONFIGURATION 10A02F8



SEE NOTES ON PAGE 35

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WIRING DIAGRAM			
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10A02F8

Electrician's notes

Wiring tips and hints (see guide for details)

1 (PROBE WIRING) SHIELDED WIRE AWG #18 WITH 16/30 STRANDING, 492ft (150m) MAXIMUM LENGTH. (Ex.: DECA 73-310)
For other probe, refer to specific probe manual for appropriate maximum length and wire size or use AWG #18, 492ft (150m) MAXIMUM LENGTH.

2 (COMMUNICATION WIRING) SHIELDED LOW CAPACITANCE WIRE, (Capacitance between conductors @ 1Khz = 24pF/ft), TWISTED PAIR (8 twist/ft), AWG #18 TO 22, 820ft (250m) MAX LENGTH. (Ex.: BELDEN 8761)

3 HIGH VOLTAGE WIRE INSTALLED ACCORDING TO LOCAL WIRING CODE.

4 INSTALL LOW VOLTAGE WIRES (PROBES, COMPUTER LINK OR POTENTIOMETER WIRES) AT LEAST 12in. (30cm) AWAY FROM HIGH VOLTAGE WIRES (120/230VAC, 24VDC). ALWAYS CROSS HIGH AND LOW VOLTAGE WIRES AT A 90-DEGREE ANGLE.

5 THE CURRENT SHALL NOT EXCEED 10A AT EACH OUTPUT (REL 1-32) AND (AUX 1-4).

6 MAXIMUM 2 WIRES OF SAME SIZE PER BLACK TERMINAL, NO BIGGER THAN AWG #18, NO SMALLER THAN AWG #22 OR 1 WIRE ONLY PER GREEN TERMINAL, NO BIGGER THAN AWG #12, NO SMALLER THAN AWG #17.

7 1 WIRE ONLY PER GREEN TERMINAL. USE WIRE CONNECTOR IF YOU WANT TO CONNECT MORE THAN 1 WIRE, NO BIGGER THAN AWG #12, NO SMALLER THAN AWG #28.

8 CHECK INSTALLATION GUIDE FOR ALARM WIRING.

9 USE SHIELD FOR SHIELDING PURPOSE ONLY. CONNECT THE SHIELD TO THE CONTROL CIRCUIT COMMON END ONLY⏚. NEVER LEAVE THE SHIELD UNCONNECTED AT BOTH ENDS. NEVER CONNECT BOTH ENDS OF THE SHIELD TO COMMON⏚.

10 THESE MODULES MUST BE ON SAME POWER PHASE AND LINE VOLTAGE AS