

# CONTROL LOGIC DESCRIPTION DOCUMENT

## MINIMUM & NATURAL VENTILATION

Configuration # : 6M37V3

### Inputs/Outputs Table

Inputs	Qty	Outputs	Qty
Inside temperature	2	Variable speed stages	5
Relative humidity (Optional)	1	Single speed stages	1
Outside temperature	1	Natural curtains	2
		Cooling stage	1
		Heaters	2
		Alarm	1

### Equipment required:

Item	Description	Qty
IC-610	Intelligent Control, 6 inputs / 10 outputs	1
CIM-1	Curtain / Inlet Module	1
VSM-2	Variable speed module	2
VSM-2/2	Variable speed module	1
2004-1k	Temperature Probe (-6.3 to 168.7 °F)	3
RHP-1	Relative Humidity Probe (Optional)	1

### Configuration Versions:

Version	Date	Modification
V0	98-08-24	New. Based on 6MF05V4.
V1	98-09-21	Natural curtain will close continuously as soon as one of the heaters starts.
V2	00-03-24	Remove PM-1s and replace with VSM-2s for stage #1 and 2. Remove fan #5 and #6 and replace with curtain open and close.
V3	00-11-28	Option added to have fan # 4 run when the heater is running and continue for one more minute. This option can be set off in parameter 14.

## 1. GENERAL

The IC-610 is a powerful control which can be programmed to work in many types of building just by changing the configuration logic. The configuration logic is the software that makes the connection between the sensor reading, the parameter and the outputs. This software is stored in a chip identified with the configuration number mentioned in the title of this document, and appearing on the left-hand side label of your control. Make sure you have this configuration at hand when calling your dealer.

For proper installation and full understanding of your IC-610, it is important to read both the **IC-610 User's Manual** and this Control Logic Document. The User's Manual informs you on safety issues, warranty, sensors, adjustments of parameters and many others characteristics of the IC-610. However, this document explains all particularities of the configuration logic. This control limits the parameters access to employees (referred to as users in this document) and gives full access to the supervisor. Section 2 explains what users can control, while section 3 provides additional information for the supervisor. To enter the supervisor mode, users have to enter the access code mentioned in section 3.

### Definition

The following terminology is used throughout this present document:

**-DRT** → **Desired Room Temperature**. This is the temperature goal for the room and also the reference temperature for all relative settings. Note that **the DRT is influenced by the growth curve function** which reduces the value on a daily basis. See the User's Manual for more details.

**-RSP** → **Relative Set Point**. Number of degrees relative to the *DRT* where a function begins.

**-Diff** → **Differential**: Number of degree changed before stopping the output. For example, with a differential = 1°F, when the IC-610 turns on a fan at 70°F as the temperature increases, it will shut it off only at 69°F as the room cools down. The differential is necessary to avoid oscillations.

**Mod Band** → **Modulation Band**: Number of degrees that a variable speed fan takes to reach its full speed.

Expressions in *ITALICS* are user parameters, whereas expressions in *COURIER* are supervisor parameters. Supervisor parameters are read-only for users.

### Ventilation System Overview

This configuration can be used for a single zone natural ventilation building. There are three variable speed and 1 single speed stages that can be turned on before switching to natural ventilation. Each stage can be programmed independently to stop running in natural ventilation. In addition to the ventilation, the IC-610 controls 2 heaters and a cooling system. The ventilation schedule follows these steps as the temperature increases:

- Heater1 and 2 on, variable stage 1 on a timer;
- Variable stage 2 &3 can be on or off the minimum ventilation timer
- Heater off, variable stage 1 speeds up;
- Variable stage 2 ON and speeds up;
- Variable stage 3 ON and speeds up;
- Stage 4 ON;
- Natural ventilation ON and fans off; (The outputs internal and CIM-1 will work together)
- Cooling stages ON.

The IC-610 reads:

- 2 inside temperature probes, and one for outside
- 1 inside humidity probe (optional)

Refer to the wiring diagram in attachment for a typical installation.

## 2. LOGIC DESCRIPTION

### Parameter 1

#### *INSIDE TEMP. READOUT*

This parameter displays the actual average temperature of the sensors. If one main temperature probe fails, the IC-610 will use only the other one and it will trigger the alarm. This parameter is displayed to the nearest 0.1°F from a minimum display of -6.0°F to maximum of 168.7 °F.

**F2:**The *INSIDE TEMP. READOUT* parameter is an average of two probes. To see the readout temperature of each probe, press F2 and it will alternate between the readout of each probe.

**F3:** See Note 1

### Parameter 2

#### *OUTSIDE TEMP. READOUT*

This parameter displays the actual outside temperature. This parameter is displayed to the nearest 0.1°F from a minimum display of -6.0°F to maximum of 168.7 °F.

**F3:** See Note 1

### Parameter 3

#### *REL. HUMIDITY READOUT*

This parameter displays the actual relative humidity. This probe is optional. If it's not present, all functions related to the humidity probe will not be available. This parameter is displayed to the nearest 1%HR from a minimum display of 0%HR and a maximum display of 100%HR.

**F3:** See Note 1

### Note 1

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

### Parameter 4

#### *DESIRED ROOM TEMP. (DRT)*

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 *DRT* is adjusted in 0.1°F from a minimum setting of 32.0°F to a maximum setting of 120.0°F.

**F2: SET DAY (8 points)**

Can program up to 8 days for growth day function. The growth day is equipped with eight set points, including the *SET DAY* (8 points) and *SET VALUES* (8 points). This parameter is to set the day of the growth day function.

**F3: SET VALUES (8 points)**

This parameter is to set the values of each day, those values are used by the ramping function.

### Parameter 5 & 6

#### *HEATER 1(2) RSP*

The respective heater is activated when temperature decreases to HEATER # RSP. Each HEATER # RSP are adjusted in 0.1°F increment from a minimum setting of -50.0°F to a maximum setting of 0.0°F.

**F2: HEATER 1 (2) DIFF**

The respective heater is deactivated after the room has warmed up to HEATER # DIFF. Each HEATER # DIFF are adjusted in 0.1°F increment from a minimum setting of 0.5°F to a maximum setting of 10.0°F.

**Parameter 7**

***MIN VENT. DUTY CYCLE***

This parameter is used to set the ventilation timer using TIMER PERIOD min and MIN VENT. DUTY CYCLE. If MIN VENT. DUTY CYCLE is set to 0%, cooling fan will be off.

**F2: TIMER PERIOD**

This parameter is used to set the timer period for the cycle. If TIMER PERIOD is set to 10 min, and the MIN VENT. DUTY CYCLE is set to 50%, the cooling fan will be on for 5 min and turned off for 5 min before a reactivation. This parameter is displayed to the nearest 1 min from a minimum of 1 min to a maximum of 20 min.

**F2: STAGE 2 MIN VENT. ACTIVE**

This parameter is used to set the stage 2 activate on the minimum ventilation timer.

**F2: STAGE 3 MIN VENT. ACTIVE**

This parameter is used to set the stage 3 activate on the minimum ventilation timer.

**Parameter 8**

***STAGE 1 RSP***

Below the STAGE 1 RSP, stage 1 runs on a timer (1-20 min.) at minimum speed. The fan accelerates from the STAGE 1 RSP to the end of the MODULATION BAND. If humidity is higher than the REL. HUMIDITY SET POINT then stage #1 increases its minimum speed by the percentage set by the parameter ADD MIN SPEED DEHUM STAGE 1, and the minimum ventilation timer is bypassed. There is a differential of 3% on the humidity logic. This parameter is displayed to the nearest 0.1°F from a minimum display of -10.0°F to maximum of 30.0 °F.

**Ex:** If the minimum speed setting is at 50% and the “ADD MIN SPEED DEHUM STAGE 1” is at 25% then when humidity is higher than the set point, the min. speed will be 75%.

**F2: STAGE 1 MIN SPEED**

The STAGE 1 MINIMUM SPEED is adjusted in 1% increment from a minimum setting of 12% to a maximum setting of 100%.

**F2: STAGE 1 MOD BAND**

This parameter establishes the modulation band for the variable speed fan. During this modulation the fan will modulate from STAGE 1 MIN SPEED to reach full speed at the end of the modulation band. The STAGE 1 MOD BAND is adjusted in 0.1°F increment from a minimum setting of 0.5°F to a maximum setting of 10.0°F.

**F2: STAGE 1 NATURAL SHUTOFF**

This parameter is used to set on or off the natural shutoff for stage 1.

**Parameter 9 & 10**

***STAGE 2(3) RSP***

Below the *STAGE # RSP*, stage 2 and 3 can run on a timer (as in stage 1), except the timer function for stage 2 and 3 can be turned on / off by setting respective parameter *STAGE # MINIMUM VENTILATION ACTIVE* to ON or OFF. The fan accelerates from the *STAGE # RSP* to the end of the *MODULATION BAND (2 OR 3)*. If Humidity is higher than the *REL. HUMIDITY SET POINT* then stage 2-3 increases their respective minimum speed by the percentage set by the respective parameter *ADD MIN SPEED DEHUM STAGE #*. There is a differential of 3 % on the humidity logic. This parameter is displayed to the nearest 0.1°F from a minimum display of -10.0°F to maximum of 30.0 °F.

**F2: STAGE 2(3) MINIMUM SPEED**

The *STAGE # MINIMUM SPEED* is adjusted in 1% increment from a minimum setting of 12% to a maximum setting of 100%.

**F2: STAGE 2(3) MODULATION BAND**

This parameter establishes the modulation band for the variable speed fan. During this modulation the fan will modulate from *STAGE # MIN SPEED* to reach full speed at the end of the modulation band. The *STAGE # MODULATION BAND* is adjusted in 0.1°F increment from a minimum setting of 0.5°F to a maximum setting of 10.0°F.

**Ex:** If the minimum speed setting is at 50% and the “*ADD MIN SPEED DEHUM STAGE #*” is at 25% then when humidity is higher than the set point, the minimum speed will be 75%.

**Note 1:** In **minimum ventilation**, if *ADD MIN SPEED DEHUM STAGE #* is set to 0 and humidity is higher than *REL. HUMIDITY SET POINT*, the respective stage will **not turn ON**.

**Note 2:** The fans goes off after the curtain **opens** for a number of cycle of natural ventilation and if the respective *NAT SHUTOFF OVERRIDE STAGE #* is set to ON. The number of cycle is adjustable at parameter # *OPEN CYCLE TO SHUTOFF FANS*. See parameter 11 for *NATURAL SHUTOFF OVERRIDE*.

**F2: STAGE 2(3) NATURAL SHUTOFF**

This parameter is used to set on or off the natural shutoff for stage 2 or 3.

**Parameter 11**

***NATURAL SHUTOFF OVERRIDE***

This parameter is used to set the limit temperature that will active the natural shutoff functions. This parameter is displayed to the nearest 0.1°F from a minimum display of 10.0°F to maximum of 120.0 °F.

**F2: NATURAL SHUTOFF OVERRIDE STAGE 1**

**F2: NATURAL SHUTOFF OVERRIDE STAGE 2**

**F2: NATURAL SHUTOFF OVERRIDE STAGE 3**

Those parameters are used to set active or not the natural shutoff functions. Each stage can be set individually.

**Parameter 12**

***REL. HUMIDITY SET POINT***

This parameter is used to adjust the value of the relative humidity on which the dehumidification logic will start. This parameter displays the actual relative humidity. This parameter is displayed to the nearest 1%HR from a minimum display of 0%HR and a maximum display of 100%HR.

**F2: ADD MIN SPEED DEHUM STAGE 1**

**F2: ADD MIN SPEED DEHUM STAGE 2**

**F2: ADD MIN SPEED DEHUM STAGE 3**

This parameter is used to set the speed percentage in addition of the STAGE # MINIMUM SPEED when the dehumidification is started. This parameter is displayed to the nearest 1% from a minimum display of 0% and a maximum display of 50%.

### Parameter 13

#### ***NATURAL OPEN RSP***

The natural curtains will open when temperature is equal or greater than *NATURAL OPEN RSP* (Diff = 1°F). Natural curtain will close continuously if one the heaters RSP has been reached. The dead band is between the opening and closing, and equals 1°F. Natural curtains will close when temperature is below than *NATURAL OPEN RSP* - 2°F (Diff = 1°F).

**F2: NATURAL DUTY CYCLE**

The natural curtains open and close on a timer using *NATURAL TIMER PERIOD* and *NATURAL DUTY CYCLE*. If *NATURAL DUTY CYCLE* is set to 0%, curtain will not move, and all the fans that were suppose to shutoff because of natural operation will not be deactivated.

**F2: NATURAL TIMER PERIOD**

This parameter is used to set the timer period for the cycle. This parameter is displayed to the nearest 1 min from a minimum of 1 min to a maximum of 10 min.

**F2: OUT TEMP. NATURAL OVERRIDE**

Natural curtain will only open if outside temperature is greater than *OUT TEMP NAT OVERRIDE* (Diff. = 1.0°F). Otherwise, it will close continuously.

**F2: # CYCLE OPEN TO SHUTOFF FANS**

This parameter is uses to control after how many cycle the shutoff fans functions will be activated. # *CYCLE OPEN TO SHUTOFF FANS* is incremented by one after each open fan time.

**Ex:** *DRT* = 70°F, *NATURAL OPEN RSP* = 7.0°F, *NATURAL TIMER PERIOD* *min* = 5 min, *NATURAL DUTY CYCLE* = 30%, dead band is fix at 1°F and outside temperature is hot enough to open the curtain, so:

-when inside temperature **increase**, natural curtain will react as follow:

**until 76°F:** close on a timer (30% of 5 min.)

**between 76° and 76.9°F:** does not move (dead band\*)

**at 77°F and up:** open on a timer (30% of 5 min.)

-when inside temperature **decrease**, natural curtain will react as follow:

**until 77°F:** open on a timer (30% of 5 min.)

**between 76° and 75.1°F:** does not move (dead band\*)

**at 75°F:** close on a timer (30% of 5 min.)

\* The dead band change place depending if the temperature increase or decrease because of the 1°F differential.

### Parameter 14

#### ***STAGE 4 RSP***

The stage 4 will be active above RSP.

**F2: STAGE 4 NATURAL SHUTOFF**

The fans goes off after the curtain **open** for a number of cycle of natural ventilation and if the respective NAT SHUTOFF OVERRIDE STAGE # is set to ON. The number of cycle is adjustable at parameter 13 CYCLE OPEN TO SHUTOFF FANS.

**F2: STAGE 4 DIFFERENTIAL**

The adjustable STAGE 4 DIFF tells the control when to stop the fan after the room has cooled down.

**F2: STAGE 4 ON WHEN HEATING**

This parameter is uses to set on or off the option to have this fan run when the heater is running and continue for one minute, this help circulate the heated air.

**Parameter 15**

***COOLING RSP***

Runs on a timer at the *COOLING RSP*.

**F2: COOLING DIFFERENTIAL**

The adjustable COOLING DIFFERENTIAL tells the control when to stop the fan after the room has cooled down.

**F2: COOLING DUTY CYCLE & COOLING TIMER PERIOD**

This cooling fan open and close on a timer using COOLING TIMER PERIOD *min* (1 to 10 min) and *COOLING DUTY CYCLE*. If *COOLING DUTY CYCLE* is set to 0%, cooling fan will be off.

**F2: HUMIDITY COOLING OFF**

The cooling can be interlocked with the humidity. It does not start if humidity is higher than the HUMIDITY COOLING OFF. (Diff. = 3 %)

**Parameter 16**

***HI TEMP. ALARM RSP***

This RSP establish the high temperature limit. Above this limit, an alarm occurs. The *HI TEMP. ALARM RSP* is adjusted in 0.5°F increment from a minimum setting of 0.0°F and a maximum setting of 40.0°F.

**F2: LO TEMP. ALARM RSP**

This RSP establish the low temperature limit. Below this limit, an alarm occurs. The *ALARM LO TEMP RSP* is adjusted in 0.5°F increment from a minimum setting of -30.0°F and a maximum setting of -1.0°F.

**F3: ALARM RELAY**

This parameter is use to deactivate all the alarms. If this parameter is set to OFF, no alarm will occurs and a warning message will be displayed. The ALARM RELAY can be set to ON, to display appropriate alarms, or OFF to deactivate all alarms. We strongly recommend to set this parameter to ON (default) at all time.

**Parameter 17**

***MANUAL OVERRIDE HEATER 1***

**F2: MANUAL OVERRIDE HEATER 2**

**F2: MANUAL OVERRIDE STAGE 4**

**F2: MANUAL OVERRIDE NATURAL CURTAIN**

**F2: MANUAL OVERRIDE COOLING**

Each internal output can be controlled manually with manual override parameters.

**Parameter 18**

***GROWTH DAY***

This parameter is used to set the day (1 to 120) of the ramping function.

**F2: ADJUST**

The growth day can be adjusted or turned off.

### Parameter 19

#### *SUP. CODE*

When the supervisor mode is ON, this mean that the user has full access (FULL ACCESS ON) to all adjustable parameters. In other words, all possible parameters which are adjustable by the user, including the protected parameters will be visible and flashing.

When the supervisor is OFF, this mean that the user does not have full access (FULL ACCESS OFF) to all of the 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.

SUP ON = FULL ACCESS ON  
SUP OFF = FULL ACCESS OFF

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

SUPERVISOR CODE: 1 37 0

#### Code entry procedure:

- 1- Go to the Supervisor code parameter using the upper and lower arrows. The LED display will show if the mode is FULL ACCESS ON or FULL ACCESS OFF.
- 2- To change the state of the supervisor mode, press the F2 button. The LED display shows "1: 00:" At this moment **enter the first number of your supervisor code.**
- 3- Press F2 again, and the LED display will show "2: 00:"  
At this moment **enter the second number of your supervisor code.**
- 4- Press F2 again, and the LED display will show "3: 00:"  
At this moment **enter the third number of your supervisor code.**
- 5- Finally, press F3 to validate the code entered.

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

### 3. Alarm



The alarm relay is normally activated, but it will deactivate 2.6 sec. or higher after a power failure or after one of the following events:

- a. the IC-610 fails
- b. the temperature exceeds the limits HI or LO TEMP. ALARM RSP.
- c. either of the main sensor is defective.

**Note:** It is possible to deactivate the alarm relay by settings the parameter *ALARM SETTINGS* (F3) to OFF. A message will flash on IC-610 display as a reminder.

### ATTACHMENTS

- Parameter Table
- Labels
- Wiring Diagram

# PARAMETER TABLE

DESCRIPTION		CONTROL VALUES						
		*	MIN	MAX	PRESET			
<b>1. INSIDE TEMP. READOUT</b>	<b>deg. F</b>		-6.3	168.7	*****	*****	*****	
	F2: Probe Input #	deg. F		-6.3	168.7	P1-2	*****	*****
	F3: Hi/Lo	deg. F	CLR	-6.3	168.7	*****	*****	*****
<b>2. OUTSIDE TEMP. READOUT</b>	<b>deg. F</b>		-6.3	168.7	*****	*****	*****	
	F2: Probe Input #	deg. F		-6.3	168.7	P3	*****	*****
	F3: Hi/Lo	deg. F	CLR	-6.3	168.7	*****	*****	*****
<b>3. REL. HUMIDITY READOUT</b>	<b>RH%</b>		0	100	*****	*****	*****	
	F2: Probe Input #	RH%		0	100	P4	*****	*****
	F3: Hi/Lo	RH%	CLR	0	100	*****	*****	*****
<b>4. DESIRED ROOM TEMP. (DRT)</b>	<b>deg. F</b>		32.0	120.0	70.0			
	F2: Set Day (8 points)		none	1	127	1,10,15,20, 25,30,35, 40		
	F3: Set Value (8 points)		none	32.0	120.0	78,75,70, 65,60,55, 50,45		
<b>5. HEATER 1 RSP</b>	<b>deg. F</b>	none	-10.0	5.0	-1.0			
	F2: Heater 1 Differential	deg. F		0.5	5.0	1.0		
<b>6. HEATER 2 RSP</b>	<b>deg. F</b>	none	-10.0	5.0	-1.0			
	F2: Heater 2 Differential	deg. F		0.5	5.0	1.0		
<b>7. MIN. VENT. DUTY CYCLE</b>	<b>%</b>	none	0	100	10			
	F2: Timer Period	min		1	20	5		
	F2: Stage 2 Minimum Ventilation Active			OFF	ON	OFF		
	F2: Stage 3 Minimum Ventilation Active			OFF	ON	OFF		
<b>8. STAGE 1 RSP</b>	<b>deg. F</b>	none	-10.0	30.0	0.0			
	F2: Stage 1 Minimum Speed	%		12	100	30		
	F2: Stage 1 Modulation band	deg. F		0.5	10.0	5.0		
	F2: Stage 1 Natural Shutoff	On/Off		OFF	ON	ON		
<b>9. STAGE 2 RSP</b>	<b>deg. F</b>	none	-10.0	30.0	1.0			
	F2: Stage 2 Minimum Speed	%		12	100	30		
	F2: Stage 2 Modulation band	deg. F		0.5	10.0	5.0		
	F2: Stage 2 Natural Shutoff	On/Off		OFF	ON	ON		
<b>10. STAGE 3 RSP</b>	<b>deg. F</b>	none	-10.0	30.0	2.0			
	F2: Stage 3 Minimum Speed	%		12	100	30		
	F2: Stage 3 Modulation band	deg. F		0.5	10	5.0		
	F2: Stage 3 Natural Shutoff	On/Off		OFF	ON	ON		
<b>11. NATURAL SHUTOFF OVERRIDE</b>	<b>deg. F</b>	none	10.0	120.0	90.0			
	F2: Natural Shutoff Override Stage 1			OFF	ON	ON		
	F2: Natural Shutoff Override Stage 2			OFF	ON	ON		
	F2: Natural Shutoff Override Stage 3			OFF	ON	ON		

DESCRIPTION		CONTROL VALUES				
		*	MIN	MAX	PRESET	
<b>12. REL. HUMIDITY SET POINT</b>	<b>RH%</b>	none	0	100	60	
F2: Add Min Speed Dehum Stage 1	%		0	50	30	
F2: Add Min Speed Dehum Stage 2	%		0	50	30	
F2: Add Min Speed Dehum Stage 3	%		0	50	30	
<b>13. NATURAL OPEN RSP</b>	<b>deg. F</b>	none	-10.0	30.0	6.0	
F2: Natural Duty Cycle	%	none	0	100	30	
F2: Natural Timer Period	min		1	10	5	
F2: Out Temp. Natural Override	SP	none	-4.0	168.0	50.0	
F2: # Cycle Open to Shutoff Fans			1	20	2	
<b>14. STAGE 4 RSP</b>	<b>deg. F</b>	none	-10.0	30.0	3.0	
F2: Stage 4 Natural Shutoff	On/Off		OFF	ON	ON	
F2: Stage 4 Differential	deg. F		0.5	5.0	1.0	
F2: Stage 4 ON when heating	On/Off		OFF	ON	ON	
<b>15. COOLING RSP</b>	<b>deg. F</b>	none	-10.0	30.0	10.0	
F2: Cooling Differential	deg. F		0.5	5.0	1.0	
F2: Cooling Duty Cycle	%	none	0	100	10	
F2: Cooling Timer Period	min		1	20	10	
F2: Humidity Cooling OFF	RH%		0	100	85	
<b>16. HI TEMP. ALARM RSP</b>	<b>deg. F</b>	none	0.0	40.0	10.0	
F2: LO Temp. Alarm RSP	deg. F	none	-20.0	-1.0	-5.0	
F3: Alarm Relay	On/Off		OFF	ON	ON	
<b>17. MANUAL OVERRIDE HEATER 1</b>		none	AUTO	ON	AUTO	
F2: Manual Override Heater 2		none	AUTO	ON	AUTO	
F2: Manual Override Stage 4		none	AUTO	ON	AUTO	
F2: Manual Override Natural Curtain		none	AUTO,0	1,2	AUTO	
F2: Manual Override Cooling		none	AUTO	ON	AUTO	
<b>18. GROWTH DAY</b>		none	OFF	120	OFF	
F2: Adjust		none	OFF	120	OFF	
<b>19. SUP. CODE</b>		none				

* Restriction legend	
none	Parameter adjustable by the user or the supervisor
	Invisible to the user when supervisor mode is OFF
	Read only to the user when supervisor mode is OFF
	Follow a growth curve when ramping function is ON
	Cannot be changed
CLR	Press   simultaneously to clear

**6M37V3**

- 1 Inside Temperature
- 2 Outside Temperature
- 3 Relative Humidity Readout
- 4 Desired Room Temp
- 5-6 Heater 1-2 Settings
- 7 Minimum Ventilation Settings
- 8 Stage 1 Settings
- 9 Stage 2 Settings
- 10 Stage 3 Settings
- 11 Natural Shutoff Override
- 12 Rel. Humidity Set Point / Settings
- 13 Natural Curtain Settings
- 14 Stage 4 Settings
- 15 Cooling Settings
- 16 Alarm Settings
- 17 Manual Override
- 18 Growth Day
- 19 Sup. Code

**6M37V3**

- 1 Inside Temperature
- 2 Outside Temperature
- 3 Relative Humidity Readout
- 4 Desired Room Temp
- 5-6 Heater 1-2 Settings
- 7 Minimum Ventilation Settings
- 8 Stage 1 Settings
- 9 Stage 2 Settings
- 10 Stage 3 Settings
- 11 Natural Shutoff Override
- 12 Rel. Humidity Set Point / Settings
- 13 Natural Curtain Settings
- 14 Stage 4 Settings
- 15 Cooling Settings
- 16 Alarm Settings
- 17 Manual Override
- 18 Growth Day
- 19 Sup. Code

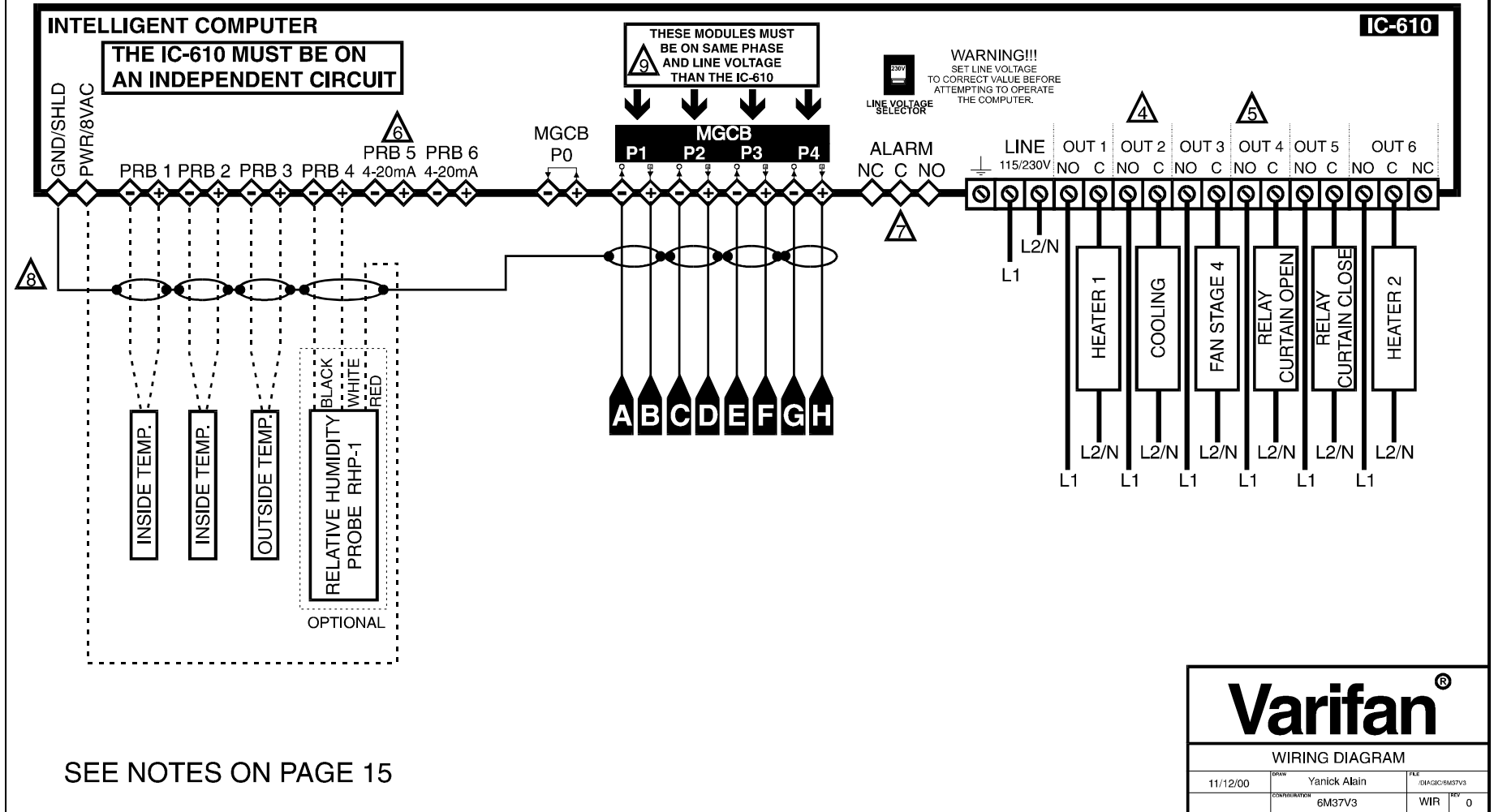


- 1 Heater 1
- 2 Heater 2
- 3 Variable Stage 1
- 4 Variable Stage 2
- 5 Variable Stage 3
- 6 Stage 4
- 7 Natural Curt. Open
- 8 Natural Curt. Close
- 9 Cooling
- 10

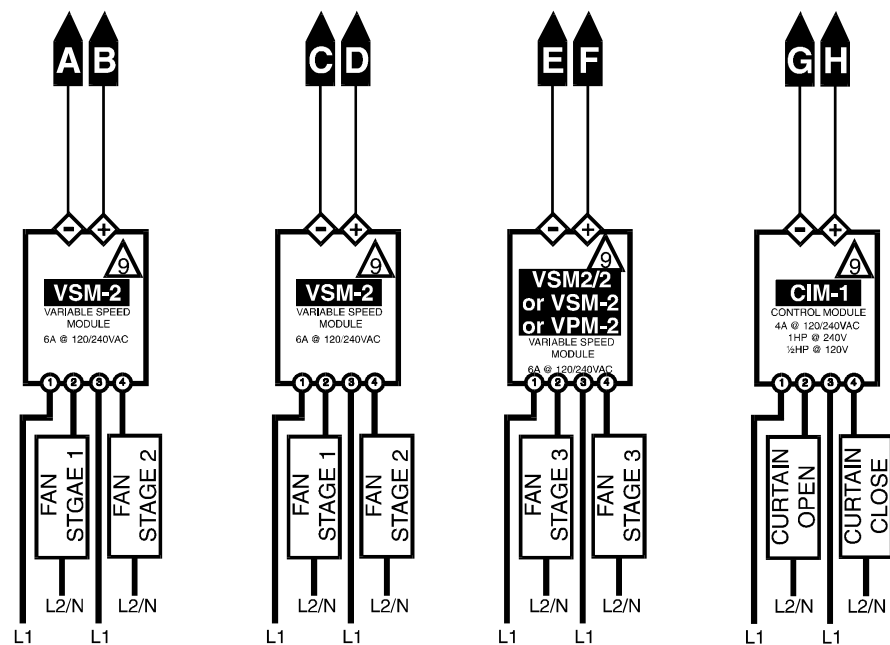
- 1 Heater 1
- 2 Heater 2
- 3 Variable Stage 1
- 4 Variable Stage 2
- 5 Variable Stage 3
- 6 Stage 4
- 7 Natural Curt. Open
- 8 Natural Curt. Close
- 9 Cooling
- 10



# WIRING DIAGRAM CONFIGURATION 6M37V3



## WIRING DIAGRAM FOR MODULES CONFIGURATION 6M37V3



SEE NOTES ON PAGE 15

<b>Varifan<sup>®</sup></b>			
WIRING DIAGRAM			
11/12/00	DRW Yanick Alain	FILE	/S401C6M37V3
	CONFIGURATION 6M37V3	WIR	REV 0

# 6M37V3

## Electrician's notes wiring tips and hints (see guide for details)

- 1 ----- SHIELDED LOW CAPACITANCE WIRE, AWG #18 OR 22  
FOR TEMP. PROBE (2004-1k), 500FT/150M MAX LENGTH WITH AWG#18  
WIRE (SUPPLIED BY ELECTRICIAN).  
For other probe, refer to specific probe manual for appropriate maximum length and  
wire size or use AWG #18, 500FT/150M MAX (whichever is shorter).
- 2 ————— SHIELDED LOW CAPACITANCE WIRE, AWG #18 TO 22, 750 FT/250 M MAX  
LENGTH
- 3 ————— HIGH VOLTAGE WIRE INSTALLED ACCORDING TO LOCAL WIRING CODE

THE CURRENT SHALL NOT EXCEED 10A AT EACH OUTPUTS (OUT 1-6).



MAXIMUM 2 WIRES OF SAME SIZE PER TERMINAL, NOT BIGGER THAN  
AWG #12, NOT SMALLER THAN AWG #22.



1 WIRE ONLY PER TERMINAL. USE WIRE CONNECTOR IF YOU WANT TO  
CONNECT MORE THAN 1 WIRE.



CHECK INSTALLATION GUIDE FOR ALARM WIRING.



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.



THESE MODULES MUST BE ON SAME POWER PHASE AND LINE VOLTAGE  
THAN THE IC-610.