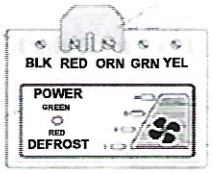
Electronics Upgrade Kit for Base Module Electronics

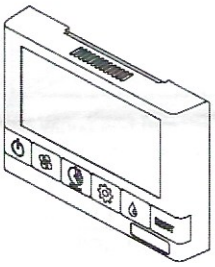
Upgrade Kit

This kit is an upgrade for BASE MODULE Electronics. Compatible units can easily be identified by the apperance of the Base Module Terminal Block located on the exterior of the HRV/ERV cabinet (refer to illustration 1).



Illustraion 1

A Digital Main Control is included with this kit (refer to Illustration 2). The Digital Main Control may be wired near the HRV or to a central location of your home. Refer to the instructions included with the Main Control for Installation.



Illustraion 2

Refer to the "Compatibility of Existing Controls" section of these instructions for information about connecting existing external controls (digital timers, 2 wire mechanical timers, dehumidistat, etc.).

Kit Contains:

1 Circuit Board (26-244)
4 Nylon Circuit Board Standoffs
1 Terminal Block (26-TB01)
1 Ribbon Cable Gasket (for Terminal Block wires)
2 Terminal Blocks screws
1 Transformer
2 Transformer screws
1 Ground wire (to ground Circuit Board)
1 Ground wire ebox screw
2 Ground wire nuts (for screws)
1 Digital Main Control (99-DXPL02 or 99-GDXPL02)

Additional Materials Required:

- 18 to 20 guage low voltage wire for the new Digital Main Control (99-DXPL02 or 99-GDXPL02)
- 3/16" and 1/8" drill bits.

Installing the Electronics Upgrade Kit

All components (Circuit Board, Transformer, Digital Main Control and Terminal Block) must be installed to upgrade the electronics.

ATTENTION

All components must be replaced (Circuit Board, Transformer, Terminal Block and Base Module Terminal Block).

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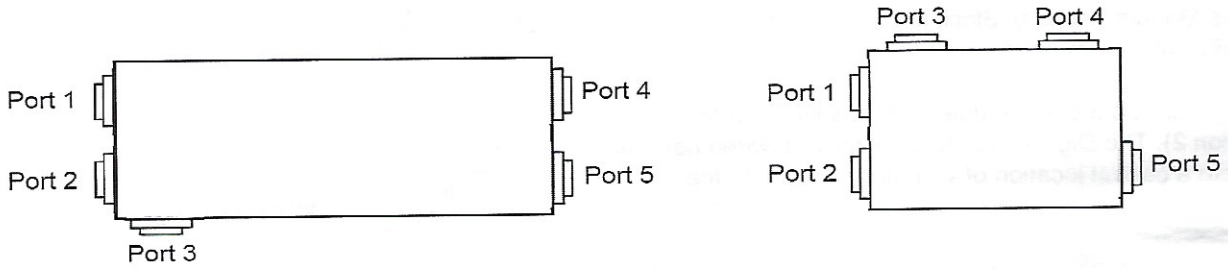
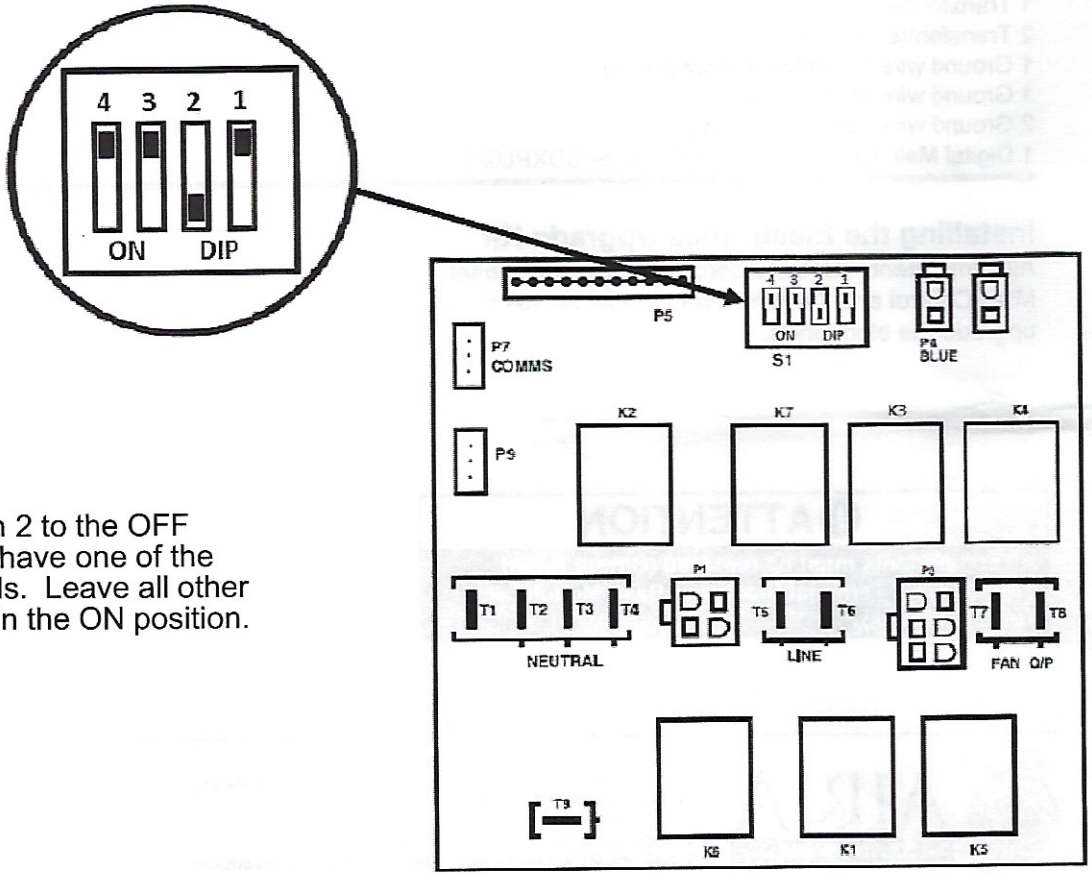
Upgrade Electronics Installation Steps

Step 1.
Switch "ON" DIP switch #2 on circuit board, if you are replacing the electronics on a <u>five</u> port unit (see illustration below).



- Go to Step 2 if you have a five (5) port unit (as illustrated above).
- Go to Step 3 if you have a four (4) port unit.

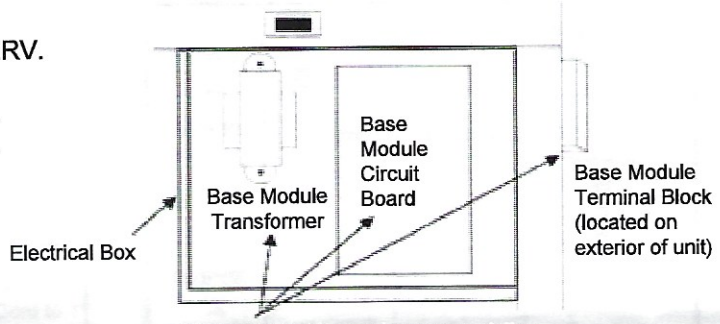
Step 2.
Reconfigure the new circuit board if you have one of the models indicated in Step 1, otherwise continue to Step 3.



Set DIP Switch 2 to the OFF position if you have one of the affected models. Leave all other DIP Switches in the ON position.

Step 3.

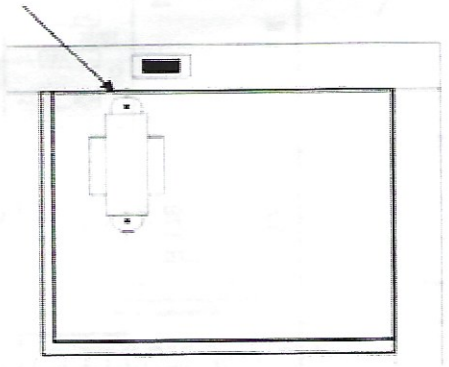
- Disconnect power from the unit.
- Remove front access panel from HRV/ERV.
- Remove electrical box cover (typically located on the top right inside of the unit).
- Disconnect all wiring from Circuit Board.
- Remove Base Module Terminal Block, Circuit Board and Tranformer.



Disconnect wiring and remove existing Base Module Circuit Board, Transformer and Terminal Block.

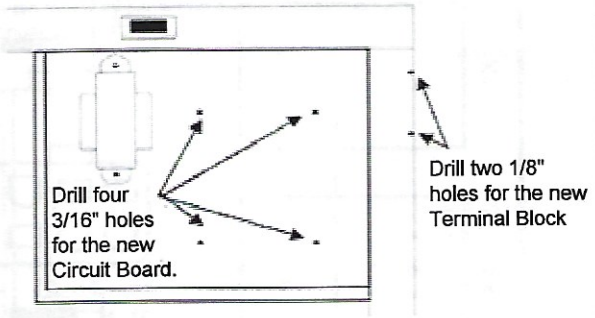
Step 4.

Install the new Transformer using existing screw holes.



Step 5.

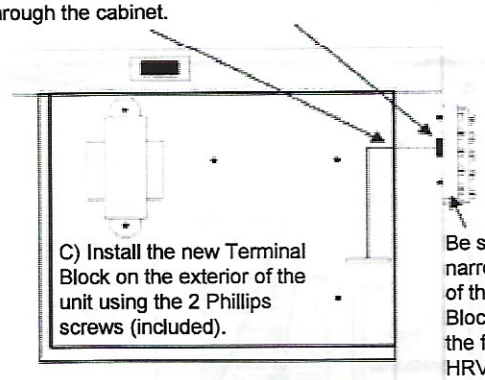
Use the new Circuit Board as your template, position the location for the new board and mark the holes. Drill four 3/16" holes for the new Circuit Board. Position the new Terminal Block, mark and drill two 1/8" holes.



Step 6.

A) Feed the Terminal Block Ribbon Cable through the cabinet.

B) Insert the Ribbon Cable Gasket in the cabinet opening.



Step 7.

A) Insert 4 Nylon Circuit Board Standoffs (included).

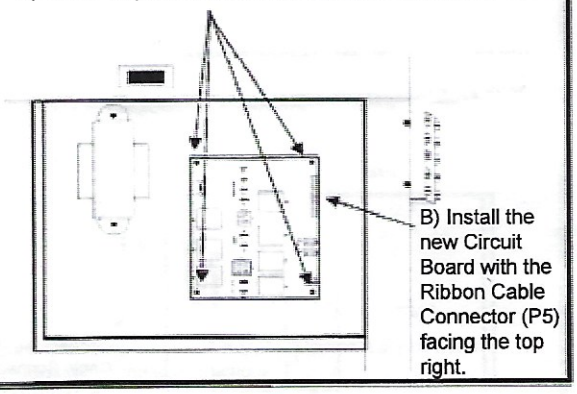
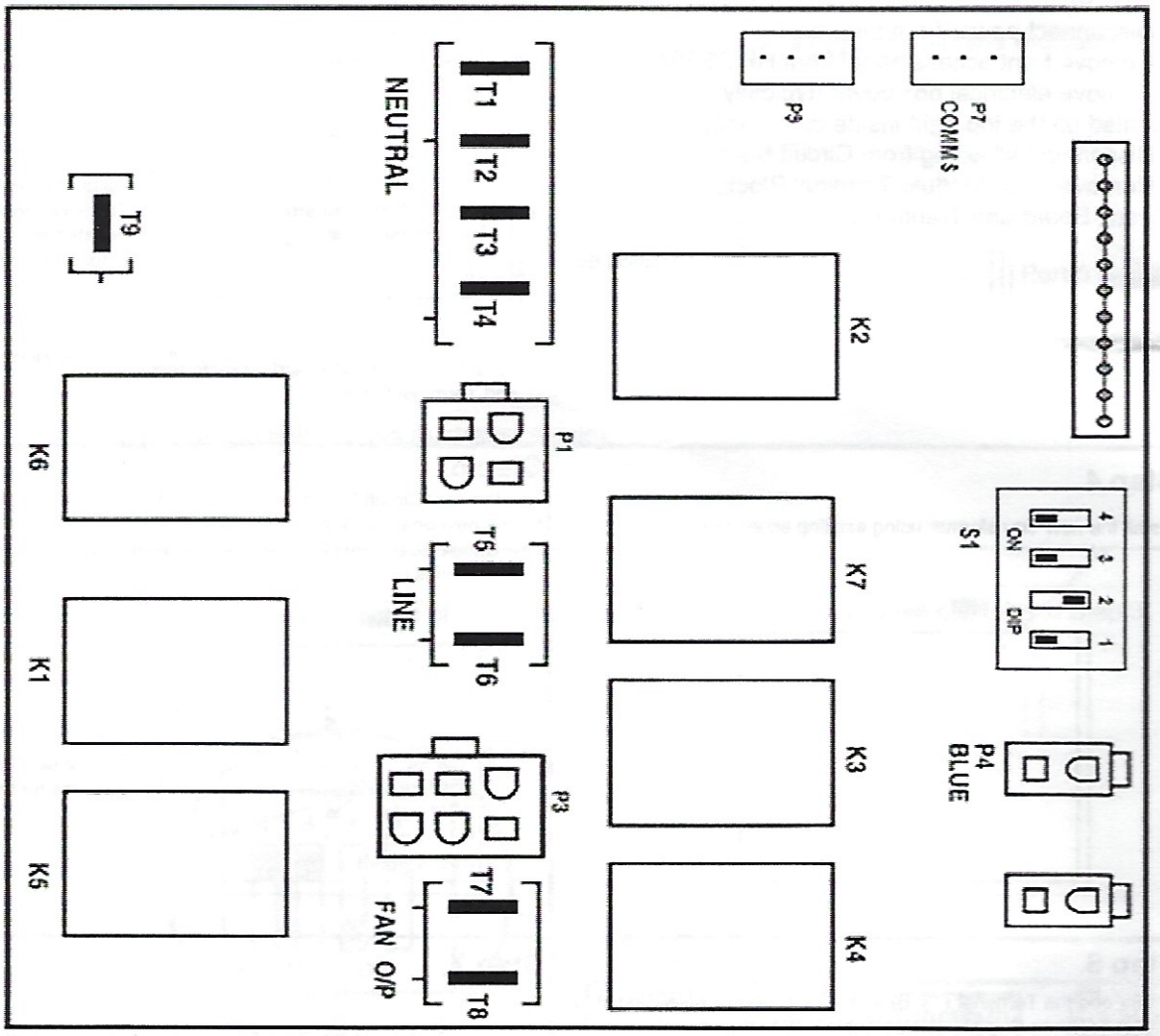
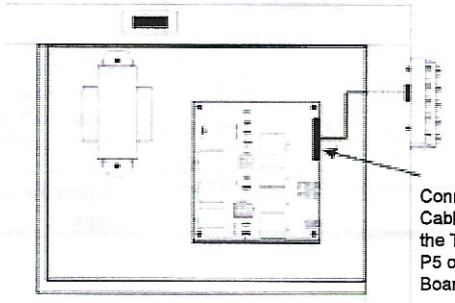


Illustration 3 - Enlarged View of the Circuit Board

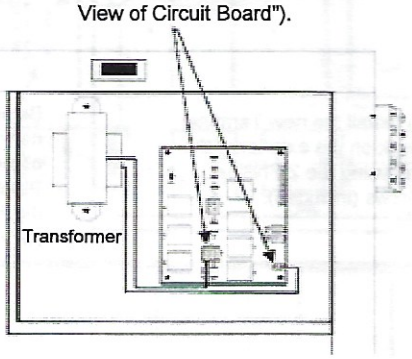


Step 8.



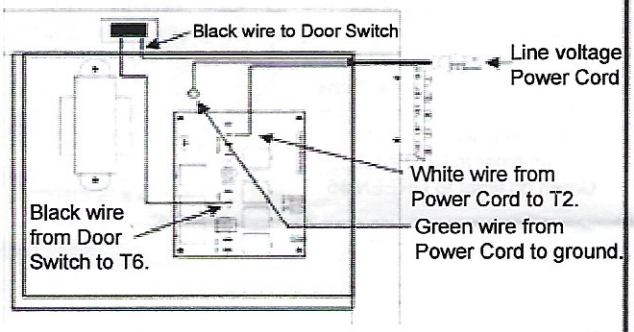
Connect the Ribbon Cable Connector from the Terminal Block to P5 on the Circuit Board.

Step 9. Connect the two Transformer Molex Connections to P3 and P6 (refer to Illustration 3 - "Enlarged View of Circuit Board").



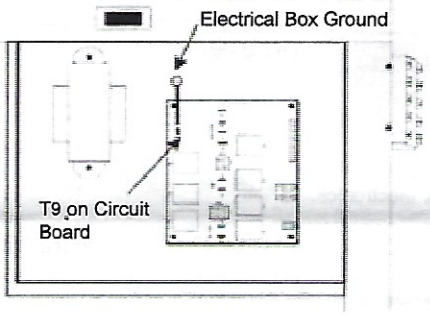
Step 10.

Connect the line voltage power connections. Black wire from Door Switch to T6; White wire from Power Cord to T2; Green wire from Power Cord to ground.



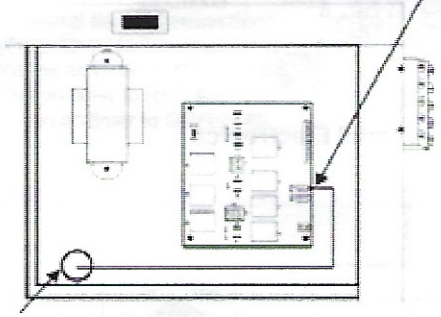
Step 11.

Connect T9 on Circuit Board to electrical box ground using green Ground Lead, ground screw and 2 screw nuts (included).



Step 12.

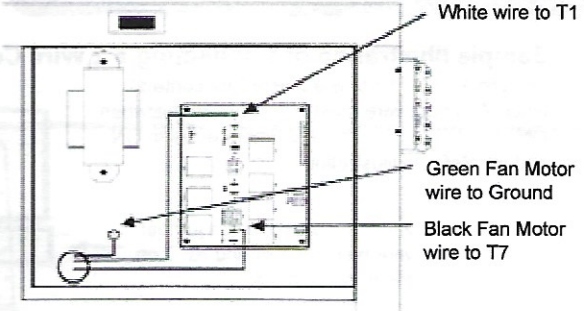
Connect the Thermistor Molex Connector (Not on all units) to P4.



Note: The Thermistor is the temperature sensor located in the "Fresh Air from Outside" duct collar. This illustration shows the Thermistor wire entering from a circular opening in the electrical box.

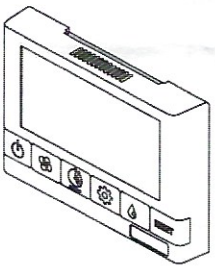
Step 13.

Connect the Fan Motor wiring to the Circuit Board. The Black Fan Motor wire to T7, the White Fan Motor wire to T1 and Green Ground screwed to the electrical box. (For the 350 model, connect the fan motor as per wiring diagram illustration in this instruction manuals).



Step 14.

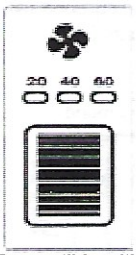
A) Install the Digital Control (included) as per instructions located in the Digital Control Box. You will require 3 wire 18 to 20 guage low voltage wire (not included).



B) Install any existing controls. Refer to "Compatibility of Base Module Controls" in these instructions.

Compatability of Base Module Controls

Digital Electronic Timer (DET)

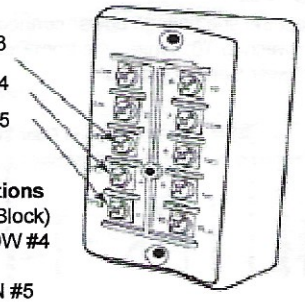


Compatible with new electronics.

Digital Electronic Timers are still compatible with the new electronics.

Connect to RED, GREEN and YELLOW terminals on the new *Terminal Block.*

New timers are Part #99DET01



Terminal Block Connections
(From Timer to Terminal Block)
Yellow on timer to YELLOW #4
Red on timer to RED #3
Green on timer to GREEN #5

Connecting the Base Module 2 Wire "Dry Contact" Controls

Two wire "Dry Contact" controls are compatible and are easily connected as per the Sample Illustration below.

Remote Dehumidistat
Location: Kitchen and bathrooms, spa or swimming pool (anywhere humidity is a concern)
- Provides high speed ventilation when humidity level exceeds selected setting.

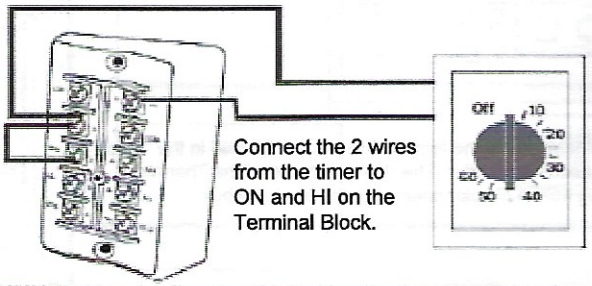
Mechanical Timer
Location: bathroom or kitchen area to bring on high speed ventilation as required.

Toggle Switch
- Provides for high speed ventilation Availible from your contractor.

Sample Illustration of Connecting a 2 Wire Control to the new Digital Electronics

The Mechanical timer is a 2 wire "dry contact" timer. A jumper wire must be connected between ON and RED. Connect the 2 timers wires to ON and HI. Refer to illustration.

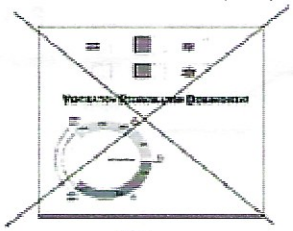
2 wire timers require a jumper wire between ON and RED on the terminal block. →



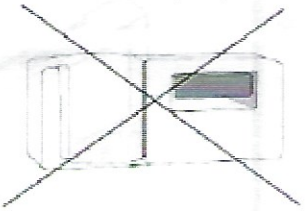
Connect the 2 wires from the timer to ON and HI on the Terminal Block.

Controls that are not Compatible with the New Digital Electronics

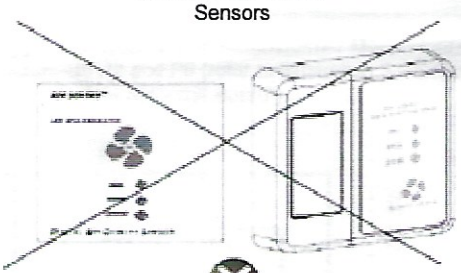
Ventilation Recirculation Dehumidistat Control (VRD)



Programmable Ventilation Controller (PVC)



Air Sentry Air Quality Sensors



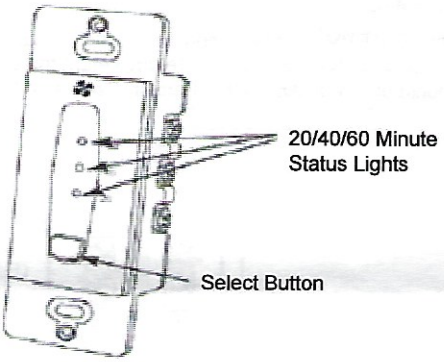
Optional 20/40/60 Minute Timer

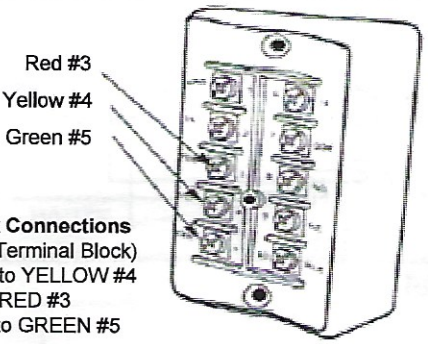
Part #99-DET01

Initiates high speed ventilation for 20, 40 or 60 minutes. The 20/40/60 Minute Status Lights indicate high speed operations.

Lockout Mode is useful if you wish to disable the timer. Set lockout by holding the Select Button for 5 seconds. Unlock by holding for 5 seconds.

Connect to 3 wire 20 gauge low voltage wire. Mounts in a standard 2" x 4" electrical box.





Terminal Block Connections
(From Timer to Terminal Block)
Yellow on timer to YELLOW #4
Red on timer to RED #3
Green on timer to GREEN #5

ATTENTION

A Jumper is required across 2 & 3 if you are not installing the main control (99-DXPL02 or 99-GDXPL02).

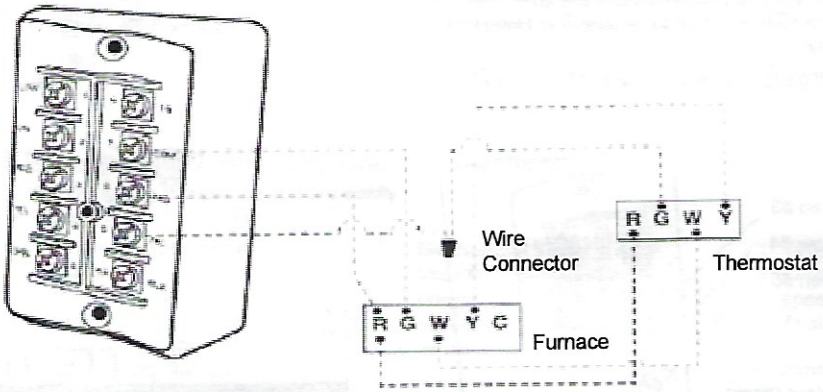
Interlocking the HRV to an Air Handler/Furnace Blower

Connect the HRV/ERV as illustrated will ensure the Air Handler/ Furnace Blower Motor is operating whenever the HRV/ERV is ventilating.

The HRV/ERV must be interlocked to the Furnace/Air Handler with a Simplified Installation (Return/Return Installation) and should be interlocked with a Partially Dedicated Installation.

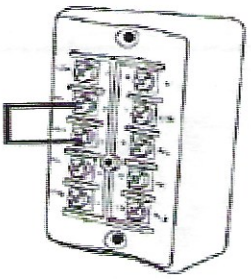
CAUTION

Consideration should be given to competing airflows when connecting the HRV/ERV in conjunction with an Air Handler/ Furnace Blower system.



Setting "Standby" when using a Main Control

The HRV/ERV will be "fully-off" when the OFF position is selected on the Main Control. Timers and/or other controls will not function when the HRV/ERV is in the OFF position. The "fully-off" feature can be modified to "standby-off" by adding a jumper on the Terminal Block between 2 (ON) and 3 (RED). "Standby" can also be achieved by setting the main control to the ON position and selecting speed 0*. Timers and/or additional controls will initiate high speed ventilation when activated.
*Speed 0 is not availible on all controls.



The Terminal Block
(Located on the HRV/ERV)

CAUTION

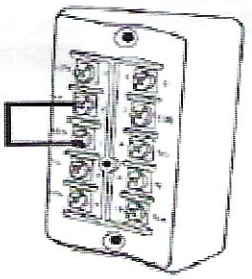
Building codes in some areas require a "fully-off" functionality. Check with your local building authority before modifying the unit to "standby-off". Unintentional operation of the HRV/ ERV by the end user may occur if the unit is modified from "fully-off" to "stanby-off".

Operating the HRV without a Main Control and Adding Dry Contact Controls

A jumper must be in place between 2 (ON) and 3 (RED) on the Terminal Block to activate the HRV/ ERV for timers and/or dry contact controls.

Adding Dry Contact Controls

Low Speed - A jumper between 2 (ON) and 1 (LOW) initiates low speed ventilation.
High Speed - A jumper between 2(ON) and 6 (HI) initiates high speed ventilation.
Dehumidistat - A dry contact for a dehumidistat is connected between 2 (ON) and 10 (BLK)



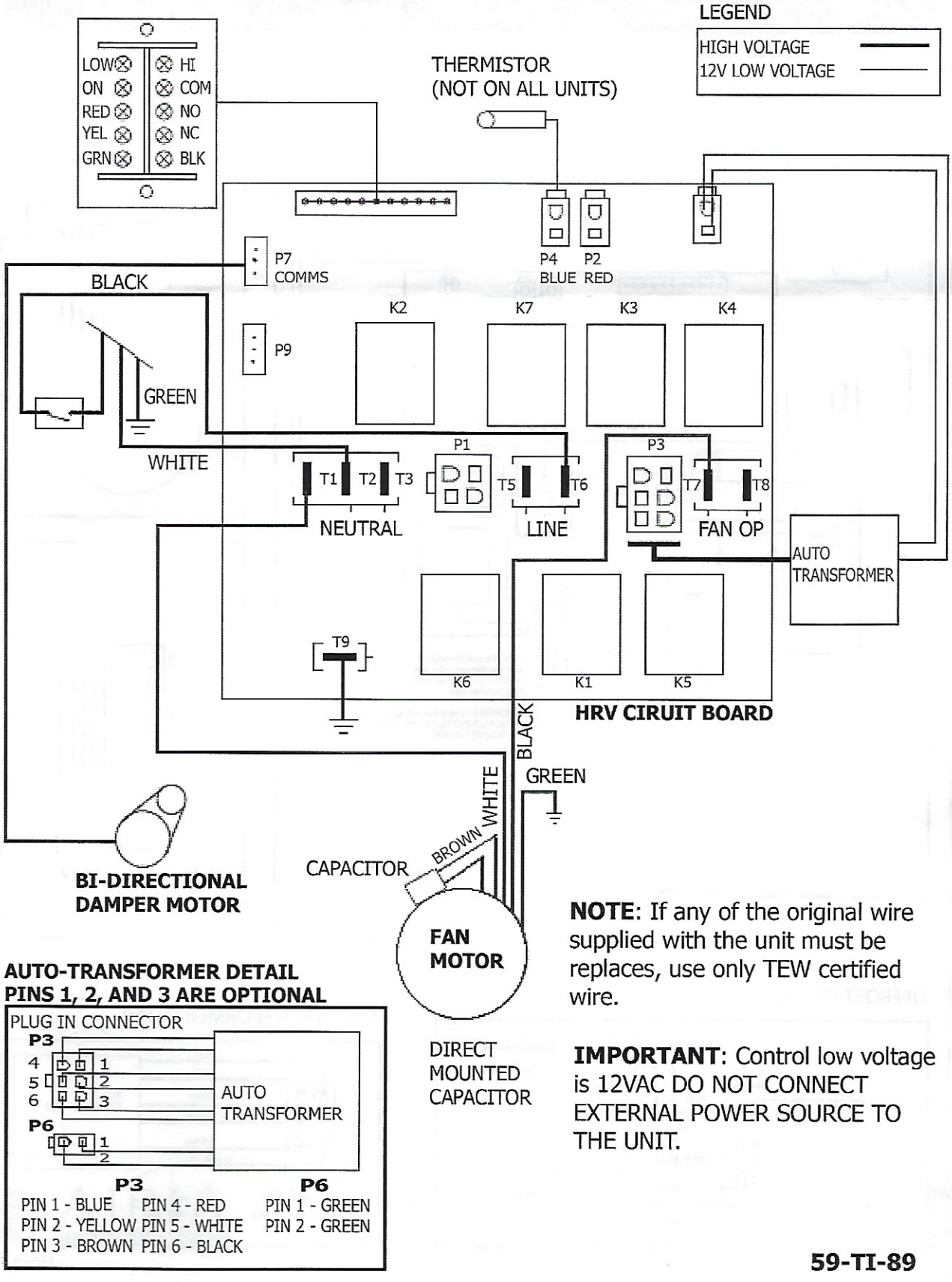
The Terminal Block
(Located on the HRV/ERV)

The HRV/ERV must have a jumper in place between 2 (ON) and 3 (RED) on the Terminal Block when installing the unit without a Main Control.

Wiring Diagram

Electronics Upgrade for Base Module Electronics with Single Fan Motor

CAUTION: ELECTRICAL CONTROL PANEL, SERVICE BY ELECTRICIAN ONLY



NOTE: If any of the original wire supplied with the unit must be replaces, use only TEW certified wire.

IMPORTANT: Control low voltage is 12VAC DO NOT CONNECT EXTERNAL POWER SOURCE TO THE UNIT.

AUTO-TRANSFORMER DETAIL
PINS 1, 2, AND 3 ARE OPTIONAL

P3		P6
PIN 1 - BLUE	PIN 4 - RED	PIN 1 - GREEN
PIN 2 - YELLOW	PIN 5 - WHITE	PIN 2 - GREEN
PIN 3 - BROWN	PIN 6 - BLACK	

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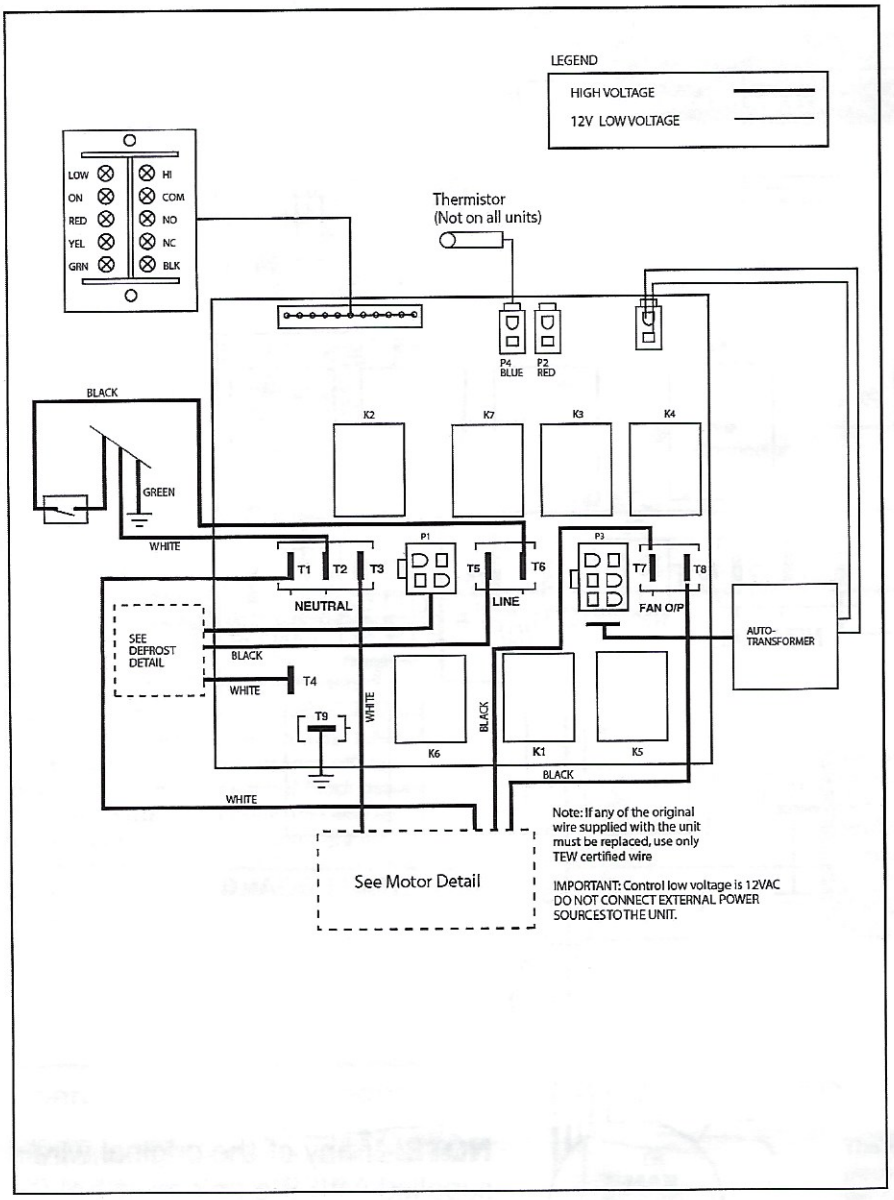
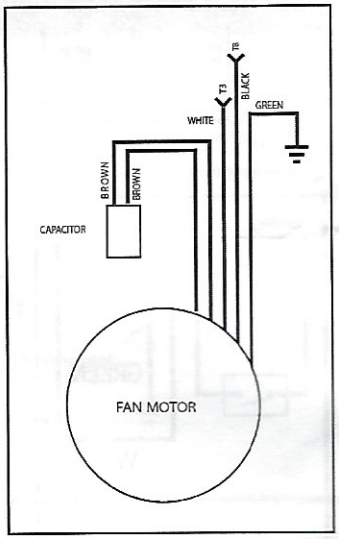
Wiring Diagram

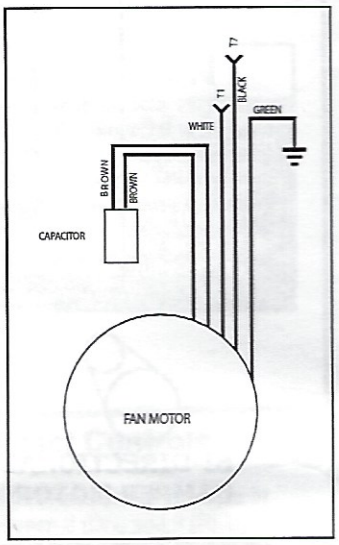
Electronics Upgrade Base Module Electronics with Two Fan Motors (350 Models)

CAUTION: ELECTRICAL CONTROL PANEL, SERVICE BY ELECTRICIAN ONLY

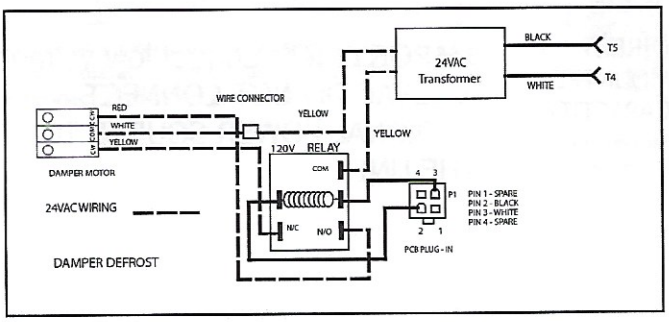


FAN MOTOR DETAILS

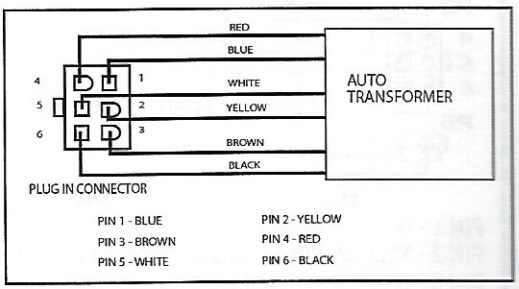




DEFROST DETAILS



AUTO-TRANSFORMER DETAIL



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