



# PTAC CONTROL BOARD KIT RSKP0006

## INSTALLATION INSTRUCTIONS

### Description

Control board installation procedures are described in detail in these instructions. Read and follow these instructions carefully before replacing the control board. Failure to do so may result in control board damage.

 <b>WARNING</b>	
<b>HIGH VOLTAGE</b> DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.	

### Important Note:

Damage to the control board can occur from failure to disconnect power supply or failure to set the master switch (located on the control board) to OFF before removing the low voltage terminal strip cover from an installed control board. Damage to this board by not following these instructions is considered misuse and not covered under either the standard unit warranty or any extended service contract.

### Important Note:

All warranty replaced boards must be returned to the parts source from which they were purchased to insure proper warranty credit.

### Electrostatic Discharge (ESD) Precautions

Before removing the new control board from the static wrap, it is very important to discharge any static electricity. This can be accomplished in two methods. Servicer can wear a ground strap or by touching the metal chassis before replacing the board.

### Existing Control Board Removal Procedures

1. Disconnect power to the unit by unplugging the power cord at the wall outlet or subbase, or disconnect power at the fuse box or circuit breaker.
2. If the cabinet front is screwed to the chassis, remove the 1/4" screw (or screws) located behind the inlet grille. Pull the inlet grille forward from the top of the grille to access screw(s).

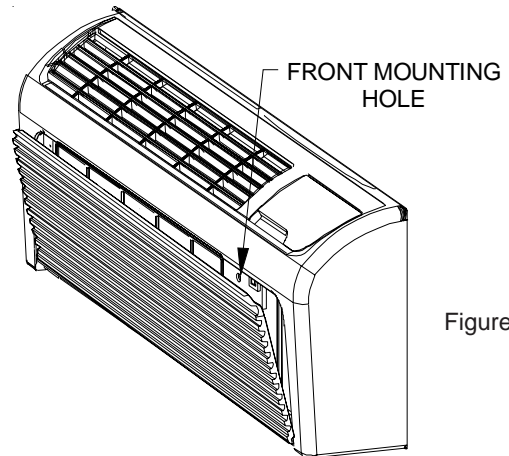


Figure 1



**RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION.**

## ATTENTION INSTALLING PERSONNEL

As a professional installer you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with this Instruction Manual. Pay special attention to all safety warnings. Often during installation or repair it is possible to place yourself in a position which is more hazardous than when the unit is in operation.

Remember, it is **your** responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense...a matter of thinking before acting. Most dealers have a list of specific good safety practices...follow them.

The precautions listed in this Installation Manual are intended as supplemental to existing practices. However, if there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.



- Remove cabinet front from chassis by tilting the bottom of the front forward, lifting slightly up and forward.
- If a remote thermostat or any low voltage accessory is being used, remove the low voltage pin connector from the low voltage terminal strip. If a previous version board is being replaced remove wires from the low voltage terminal strip.

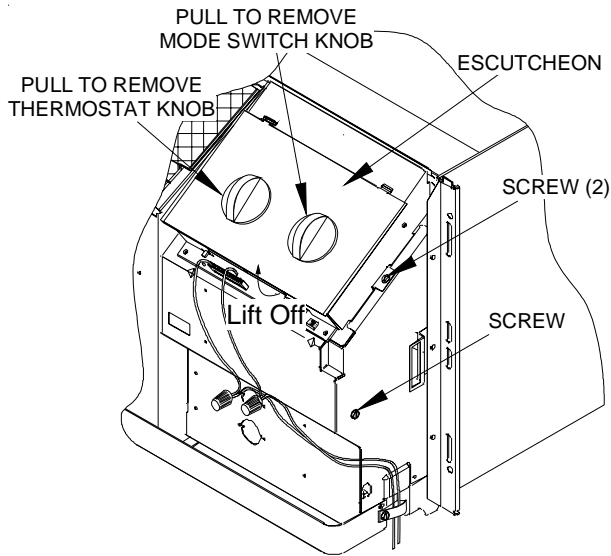


Figure 2

- Remove knobs and escutcheon.
- Remove the two mounting screws, one on each side of control board cover. Some models may have a screw on the lower right side of the control panel that will need to be removed. Tilt control panel out and remove cover.
- Remove the wires from the board in the unit, including Thermistor Sensors if they plug into the board.
- Remove the four screws holding the board and remove the old board.

## New Control Board Installation Procedures

**⚠ WARNING**

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- If existing unit has a remote mounted "off board" transformer for board power, proceed to Step 13.
- Lift the control panel up so the control panel is free of its hinges. Orient the control panel so there is easy access for mounting components to the inside of the control panel.
- Using the two #8 screws that are provided, screw the transformer that was provided with the kit to the control panel in the transformer mounting holes provided in the panel. See Figure 3.

- The external transformer will come with the Black 37 wires connected to the LOAD terminal of the transformer (LOAD terminals are the low voltage terminals) and the Grey 22 wire connected to the COM terminal on the transformer. The Grey 21 wire will need to be connected to the 230 or 265 volt tap on the transformer. Place the control panel back on its hinges.

**NOTE:** Refer to the serial plate for voltage information.

- Install the new board and reinstall the screws removed in step # 8.
- Using the insulated terminals connect the two (2) Black 37 wires from the Load terminals on the transformer to the "24VAC Transformer" terminals on the control board. See Figure 4.
- Connect Grey 22 wire from the COM terminal on the transformer to line 2 on the control board. Connect Grey 21 wire from the transformer to line 1 on the control board.

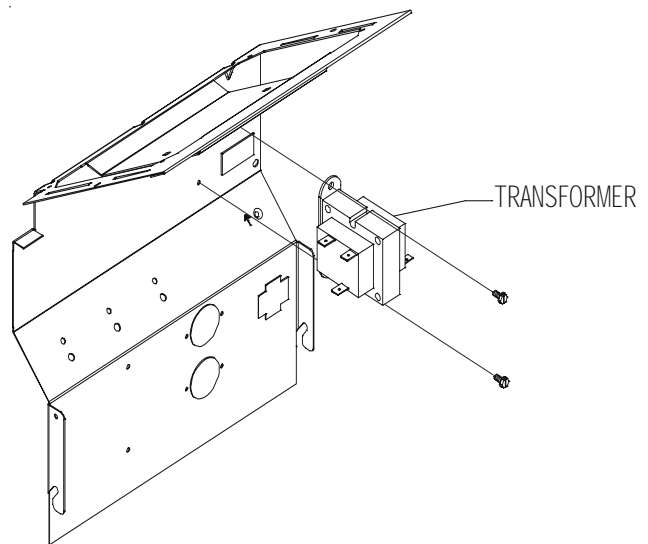


Figure 3

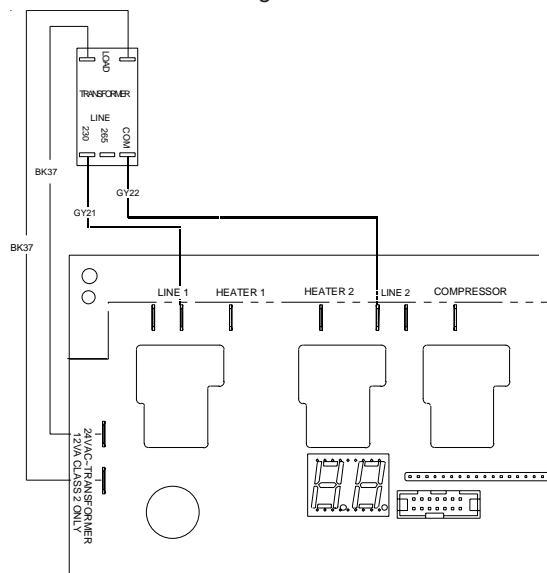


Figure 4

## 16. Thermistor Temperature Sensors Installation

A. It is recommended that the **Indoor Discharge Thermistor** (with the **YELLOW** wires) be installed but it is optional. If you chose not to install this sensor, the green status light will remain illuminated continuously. For status light functionality, the **YELLOW** thermistor **MUST** be installed. Instructions are as follows:

A1. Carefully cut and remove the gasket on the left and right sides of discharge screen. Remove the two (2) 5/16" screws holding the indoor exhaust screen above the indoor coil. Remove the indoor exhaust screen.

Remove the two (2) 1/4" screws connecting the heater panel to the evaporator coil.

Remove the two (2) screws mounting the air baffle to the top of the heater panel and remove and discard the air baffle.

A2. Install the new air baffle. Route the yellow thermistor probe from right to left through the wiring tube enclosure. Mount the black tip of the yellow thermistor probe in the plastic clip provided. Hold the plastic clamp in place and secure the clamp to the left end of heater panel using one of the original screws. Replace the screw on the right end of the air baffle being careful not to damage the wiring insulation on the probe.

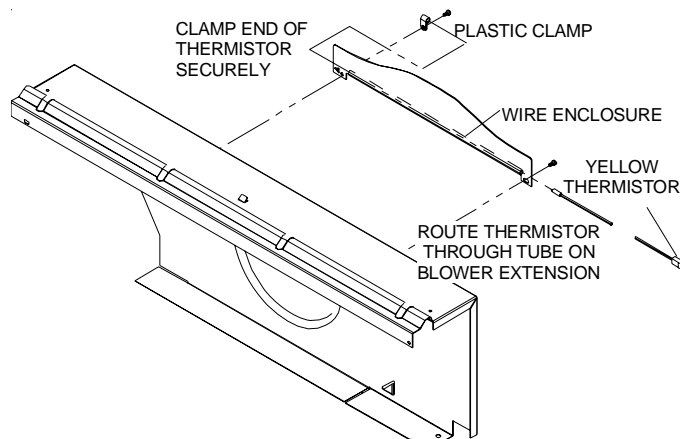


Figure 5

A3. Replace the heater panel, routing the yellow wire around the right end of the heater panel and into the control panel pulling snug to prevent the wire from being entangled in the blower wheel or being visible from above. Replace the two screws mounting the heater panel to the evaporator coil.

A4. Replace the exhaust grille and two mounting screws.

A5. Connect the yellow wire using the plug-on connector to the new board on the **IDT** (yellow) terminals.

B. If the existing **Indoor Ambient Thermistor** (with the **BLACK** wires) was connected to the board by a plug-on connector, reconnect it to the new board on the **IAT** (black) terminals. If the existing Indoor Coil Thermistor was soldered to the previous board, install the new black thermistor per Figure 6 and connect as above.

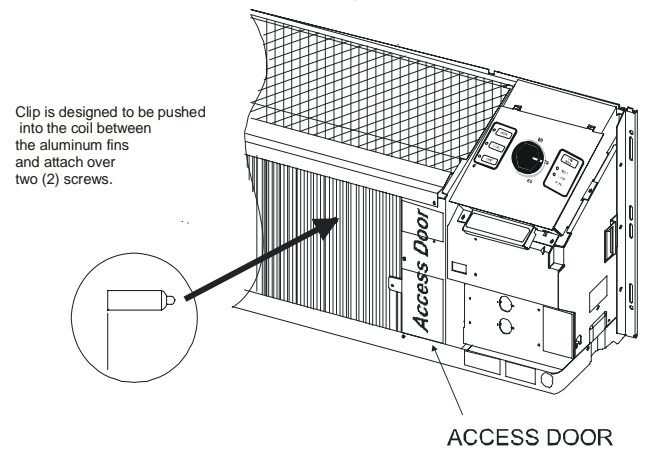


Figure 6

C. If the existing **Indoor Coil Thermistor** (with the **RED** wires) was connected to the board by a plug-on connector, reconnect it to the new board on the **ICT** (red) terminals. If the previous board used indoor coil bi-metals, remove and discard the bi-metal devices. The access door will need to be removed on the indoor coil to gain access to the bi-metal. See Figure 6. The Indoor Coil Thermistor will need to clip on the vertical section of the 90-degree bend of the inlet line to the indoor coil. See Figure 7. Connect the Indoor Coil Thermistor to the board as noted above.

D. If the existing **Outdoor Coil Thermistor** (with the **BLUE** wires) was connected to the board by a plug-on connector, reconnect it to the new board on the **OCT** (blue) terminals. If the previous board used indoor coil bi-metals, remove and discard the bi-metal devices. The Indoor Coil Thermistor will need to clip on the crossover tube shown in Figure 8. There will be two clips supplied in the kit for the Blue Thermistor. One clip as supplied on the sensor will fit 5/16" tubing used on the bent coil, and an additional clip (loose in the bag) will fit 3/8" tubing used on the flat slab coil. If you have a slab coil, you will need to remove the 5/16" clip from the sensor and replace it with the 3/8" tube clip. Connect the Outdoor Coil Thermistor to the board as noted above. Outdoor Coil Thermistors are only used on Heat Pump models; **DO NOT INSTALL THIS SENSOR IF THE UNIT IS NOT A HEAT PUMP.**

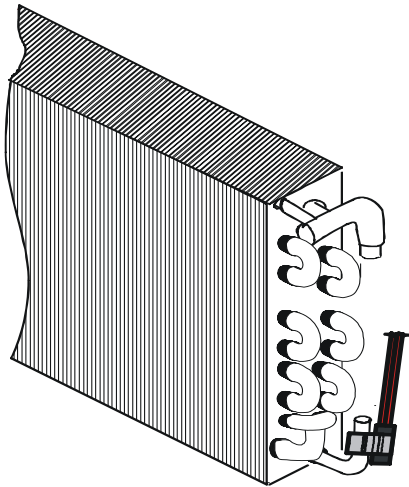


Figure 7  
INDOOR COIL THERMISTOR - RED  
All Units  
Connect to ICT on Control Board

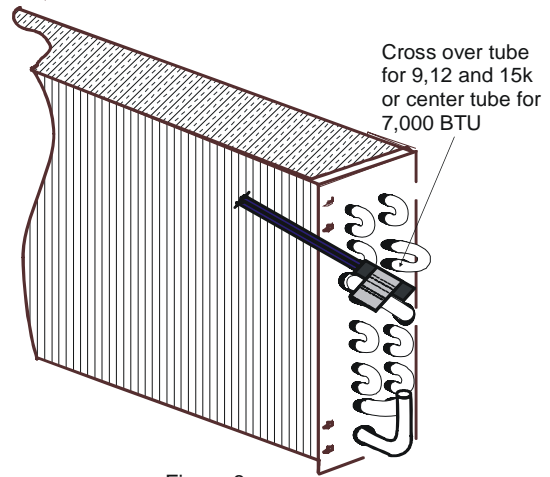


Figure 8  
OUTDOORCOIL THERMISTOR - Blue  
Heat Pumps Only  
Connect to OCT on Control Board

17. If the unit has a condensate pump, go to step 18. If the unit has a power vent or power door, go to step 19. Otherwise proceed with step 20. Refer to wiring diagrams in back of manual.

18. *Condensate Pump Units Only*  
(See *Wiring Diagram Page 10*)

Reconnect the wires across the top terminals of the control board. Connect as follows:

Red 33 to Line 1

Brown 34 to Heater 1

Brown 34 to Heater 2

Power cord (or black 18) to Line 2

Violet 12 and Yellow 3 to Compressor

Black 16 to Fan High

Red 17 to Fan Low

19 from reversing valve and Yellow 1 to Rev. Valve.

Connect the yellow 5 wire to the 230 or 265-volt terminal as applicable using the piggyback terminal on the yellow 5 wire. Go to step 21.

19. *Power Vent/Power Door Units Only*

*(See Wiring Diagram Page 9)*

Reconnect the wires across the top terminals of the control board. Connect as follows:

Red 33 to Line 1

Brown 34 to heater 1

Brown 34 to Heater 2

Power cord (or black 18) to Line 2

Violet 12 to Compressor

Blue 4 to Fan high

Blue 15 and Blue 10 to Fan Low

19 from reversing valve to Rev. Valve

Connect the white 7 wire to the 230 or 265-volt terminal as applicable using the piggyback terminal on the white 7 wire. Go to step 21.

20. Reconnect the wires across the top terminals of the control board. Connect as follows:

*(See Wiring Diagram Page 8)*

Red 33 to line 1

Brown 34 to heater 1

Brown 34 to heater 2

Power cord or black 18 to line 2

Violet 12 to compressor

Black 16 to Fan High

Red 17 to Fan Low

19 from reversing valve to Rev. Valve.

21. If a remote wired thermostat and an additional REK01B escutcheon that states "THIS UNIT IS CONTROLLED BY WALL MOUNTED THERMOSTAT" is used, the knob and potentiometer will need to be removed. To remove the knob, loosen the set screw on the side of the knob with a flat screwdriver and pull knob from potentiometer shaft. To remove the potentiometer, loosen the nut with a 10mm driver and remove the nut and 2 washers. Pull the shaft free of the panel. Reassemble potentiometer, washers, nut and knob and store for future use. These will be required if the unit is ever converted back to local controls instead of wired thermostat operation.

The control board cover is now ready to be installed. The ribbon for the touch pad will need to be connected to the control board. **Take caution not to bend or fold the ribbon** (See Figure 9 for ribbon connection).

Install orange connector from the thermostat on the touch pad to the IHD Terminals on control board, unless the knob has been removed.

Ensure that no wires are pinched or caught between the cover and the panel and then reinstall the screws removed in Step 5.

22. If a remote thermostat or any low voltage accessory is being used connect the low voltage pin connector to low voltage terminal strip.

If replacing a previous version board you will need to use the 18 pin connector supplied with the board for low voltage accessories. Wires supplied with this kit have terminal ends on the wires. Insert the terminal end into the correctly labeled slot, push in and it will lock in place. After loading pin connector use the wire nuts supplied with the kit to wire nut the new wires onto the existing wires supplied for low voltage accessories. See Figure 9 on page 5.

23. Set the master switch to ON. Restore electrical power and verify unit functionality.

24. This control can be configured for several operational features.

A. If the unit was being controlled by a wired wall thermostat, the board will have to be configured to allow the thermostat to operate the unit. To configure for a wired wall thermostat, press and hold the FAN SPEED button and press the COOL button twice. The light in the bottom left hand corner below the OFF light will blink twice to confirm that the configuration was successful. Repeat step 24 if the light did not blink.

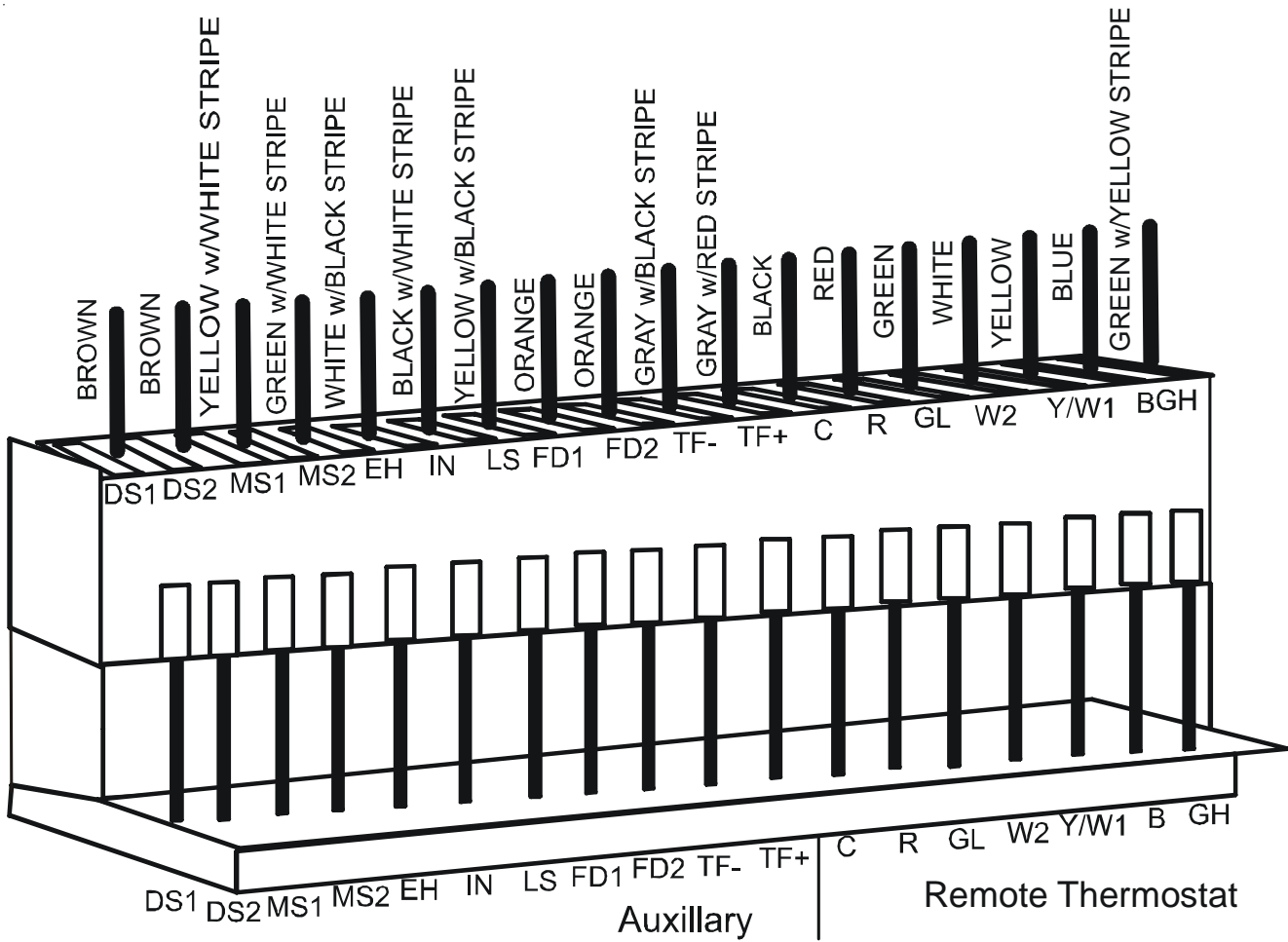
B. If the unit will be controlled by a wireless thermostat (Goodman DS01A using DT01A antenna on the unit), the board may have to be configured to allow the wireless thermostat to operate the unit. To configure for wireless operation, press and hold the FAN SPEED button and press the HEAT button twice. The light in the bottom left hand corner below the OFF light will blink twice to confirm that the configuration was successful. Repeat step 24 if the light did not blink.

C. If constant fan is desired, the unit will need to be configured by pressing and holding the HEAT button and pressing the OFF button twice. To revert to auto/cyclic fan operation, press and hold the COOL button and press the OFF button twice.

D. Other configuration items exist, but can only be accessed over the wireless antenna to a wireless site platform (Goodman DP01A).

E. To reset all the configuration items back to the factory defaults, turn the master switch off for 10 seconds, and then hold the HEAT and COOL button while turning the master switch back on.

25. Replace the front in reverse order as removed in Steps 2 and 3.



\*Only load wires needed for accessories attached to unit.

Figure 9

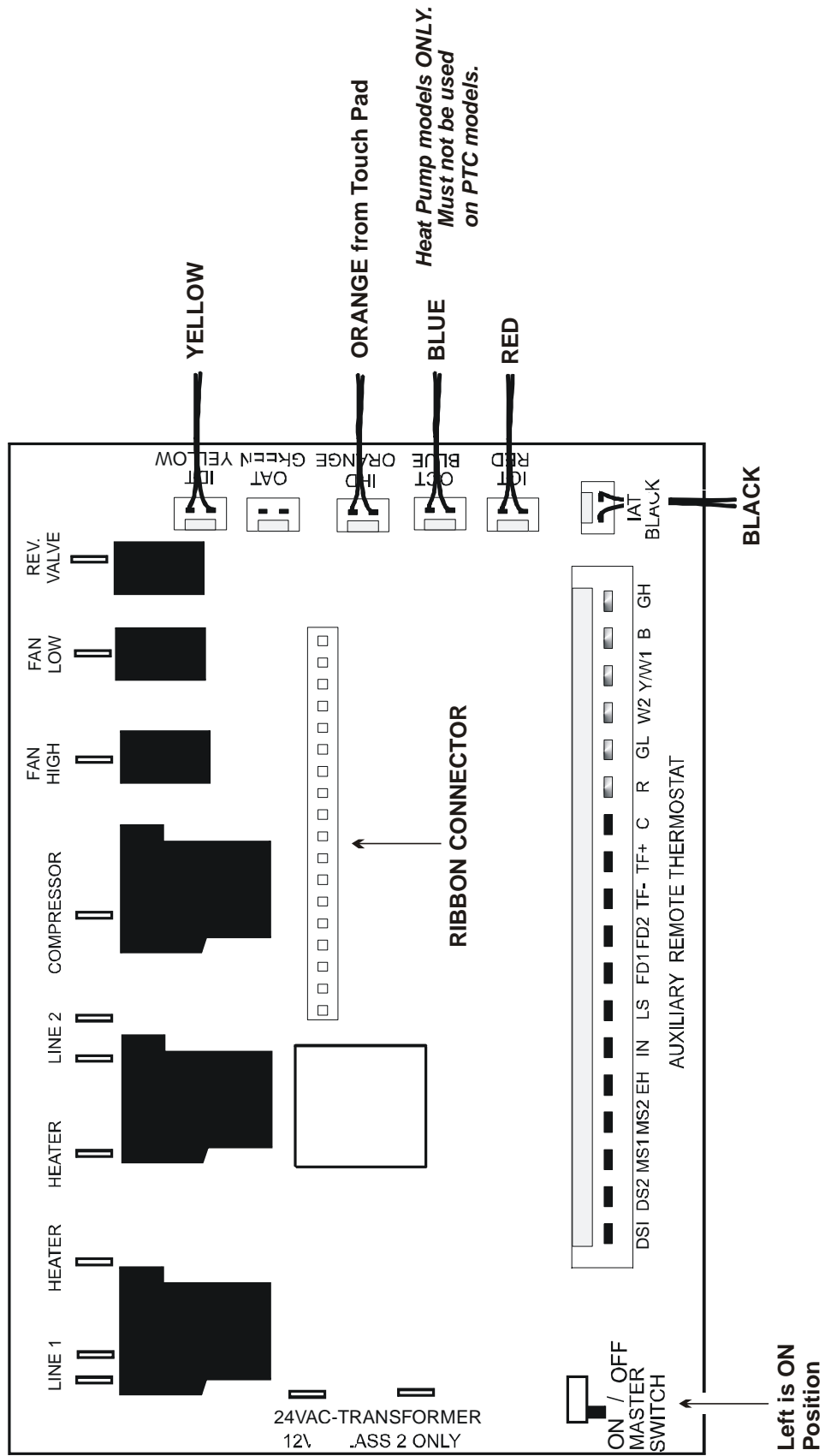
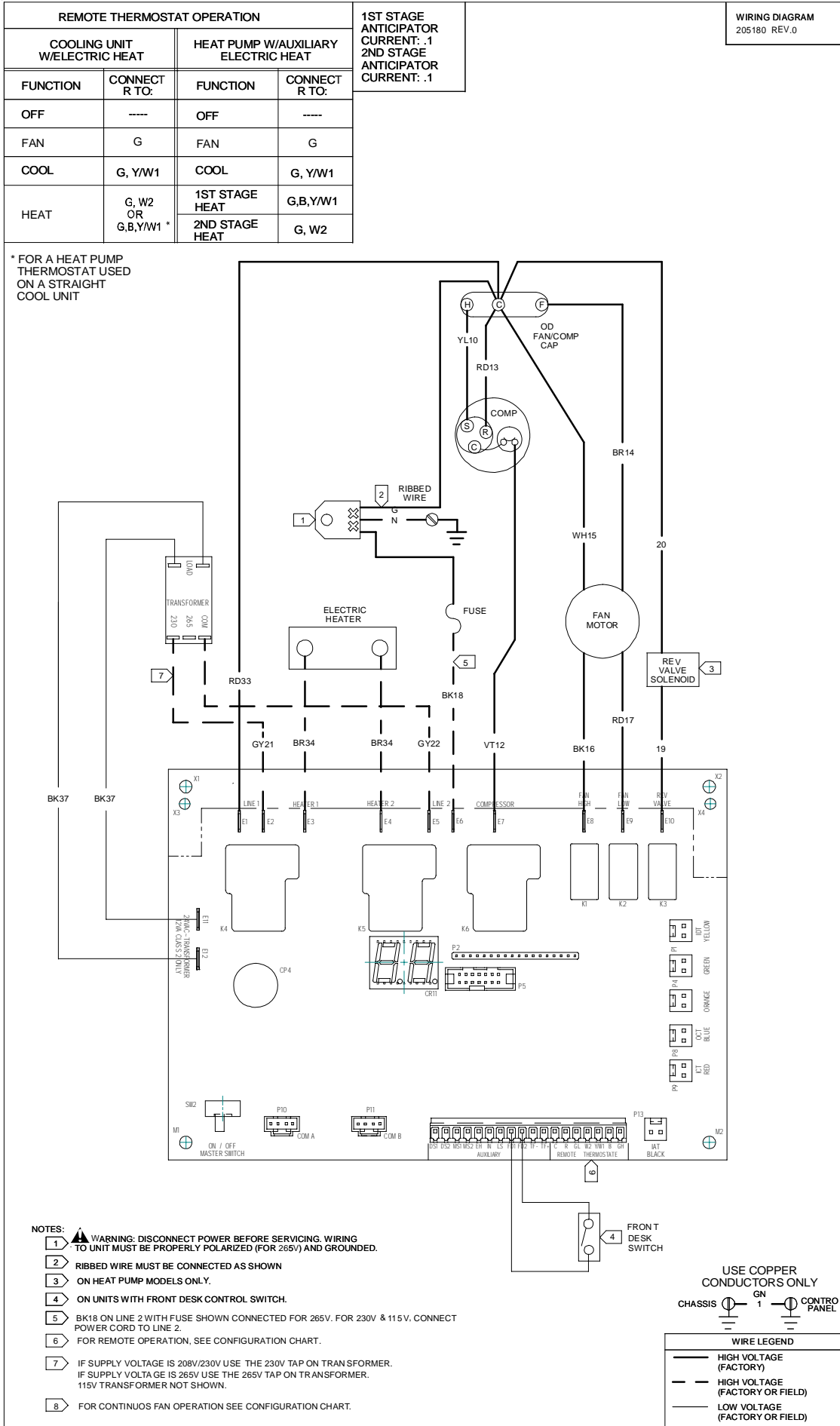


Figure 10

# WIRING DIAGRAMS

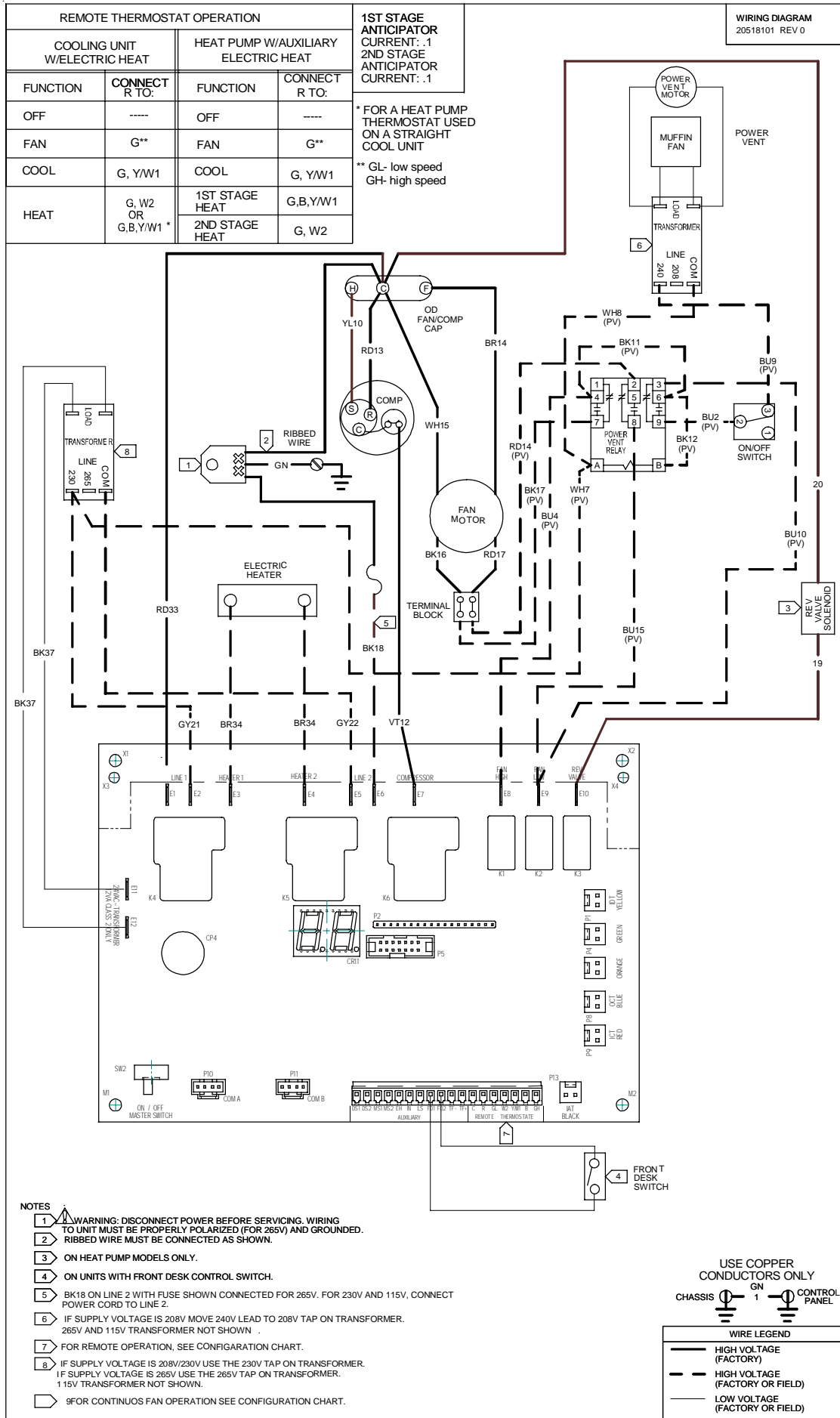


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**WARNING**

# WIRING DIAGRAMS

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**WARNING**



- NOTES**
- 1 **WARNING: DISCONNECT POWER BEFORE SERVICING. WIRING TO UNIT MUST BE PROPERLY POLARIZED (FOR 265V) AND GROUNDED.**
  - 2 RIBBED WIRE MUST BE CONNECTED AS SHOWN.
  - 3 ON HEAT PUMP MODELS ONLY.
  - 4 ON UNITS WITH FRONT DESK CONTROL SWITCH.
  - 5 BK18 ON LINE 2 WITH FUSE SHOWN CONNECTED FOR 265V. FOR 230V AND 115V, CONNECT POWER CORD TO LINE 2.
  - 6 IF SUPPLY VOLTAGE IS 208V MOVE 240V LEAD TO 208V TAP ON TRANSFORMER. 265V AND 115V TRANSFORMER NOT SHOWN.
  - 7 FOR REMOTE OPERATION, SEE CONFIGURATION CHART.
  - 8 IF SUPPLY VOLTAGE IS 208V/230V USE THE 230V TAP ON TRANSFORMER. IF SUPPLY VOLTAGE IS 265V USE THE 265V TAP ON TRANSFORMER. 115V TRANSFORMER NOT SHOWN.
  - 9 FOR CONTINUOUS FAN OPERATION SEE CONFIGURATION CHART.

# WIRING DIAGRAMS

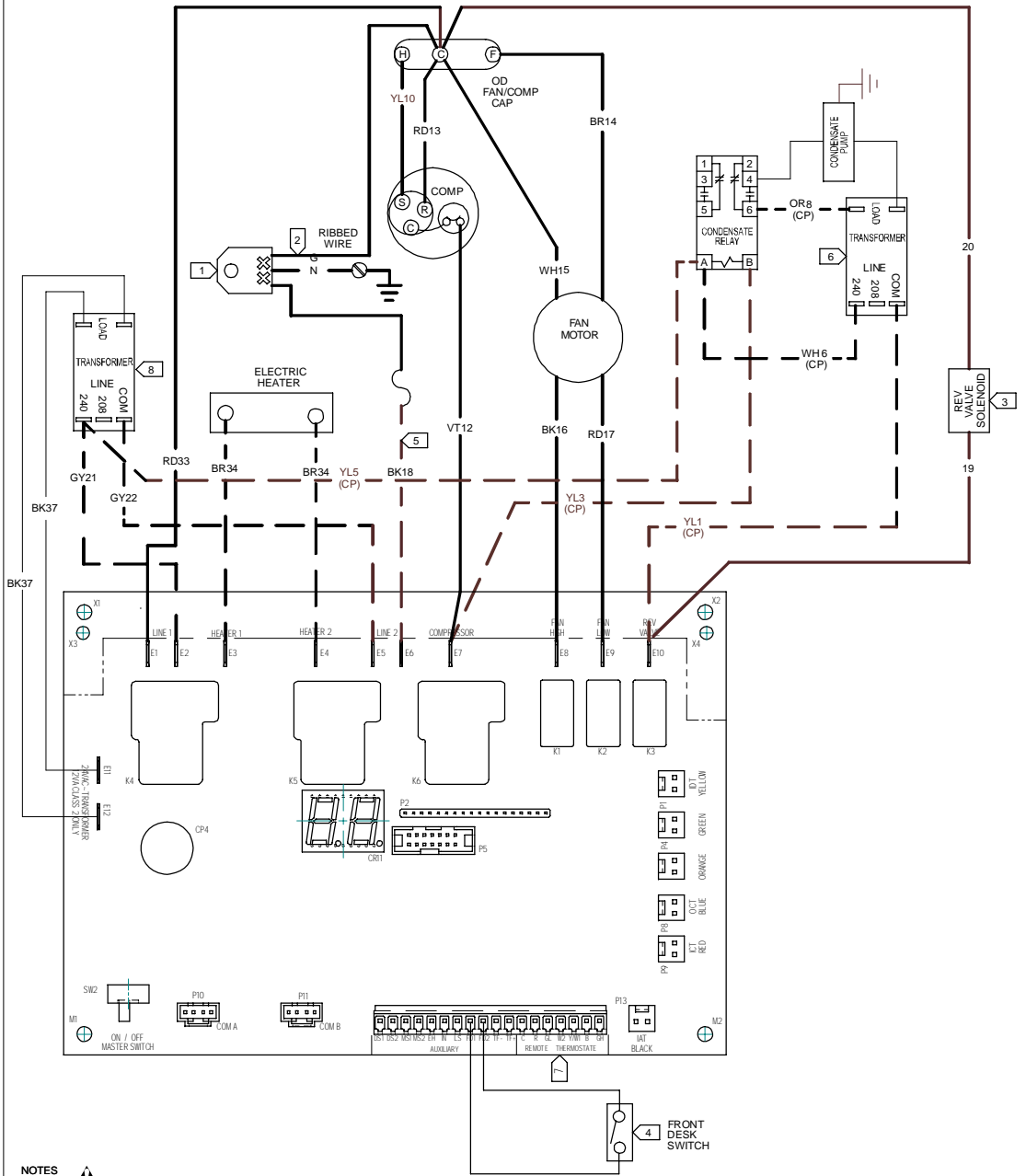
WIRING DIAGRAM  
205184 REV 0

REMOTE THERMOSTAT OPERATION			
COOLING UNIT W/ELECTRIC HEAT		HEAT PUMP W/AUXILIARY ELECTRIC HEAT	
FUNCTION	CONNECT R TO:	FUNCTION	CONNECT R TO:
OFF	-----	OFF	-----
FAN	G	FAN	G
COOL	G, Y/W1	COOL	G, Y/W1
HEAT	G, W2 OR G,B,Y/W1 *	1ST STAGE HEAT	G,B,Y/W1
		2ND STAGE HEAT	G, W2

1ST STAGE ANTICIPATOR CURRENT: .1  
2ND STAGE ANTICIPATOR CURRENT: .1

\* FOR A HEAT PUMP THERMOSTAT USED ON A STRAIGHT COOL UNIT

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- NOTES**
1. WARNING: DISCONNECT POWER BEFORE SERVICING. WIRING TO UNIT MUST BE PROPERLY POLARIZED (FOR 265V) AND GROUNDED.
  2. RIBBED WIRE MUST BE CONNECTED AS SHOWN.
  3. ON HEAT PUMP MODELS ONLY.
  4. ON UNITS WITH FRONT DESK CONTROL SWITCH.
  5. BK18 ON LINE 2 WITH FUSE SHOWN CONNECTED FOR 265V. FOR 230V AND 115V, CONNECT POWER CORD TO LINE 2.
  6. IF SUPPLY VOLTAGE IS 208V MOVE 240V LEAD TO 208V TAP ON TRANSFORMER. 265V AND 115V TRANSFORMER NOT SHOWN.
  7. FOR REMOTE OPERATION. SEE CONFIGURATION CHART.
  8. IF SUPPLY VOLTAGE IS 208V, MOVE 204V LEAD TO 208V TAP ON TRANSFORMER. 265V AND 115V TRANSFORMER NOT SHOWN.
  9. FOR CONTINUOUS FAN OPERATION SEE CONFIGURATION CHART.

USE COPPER CONDUCTORS ONLY

CHASSIS 1 CONTROL PANEL

**WIRE LEGEND**

- HIGH VOLTAGE (FACTORY)
- - - HIGH VOLTAGE (FACTORY OR FIELD)
- LOW VOLTAGE (FACTORY OR FIELD)

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### **Quality Makes the Difference!**

All of our systems are designed and manufactured with the same high quality standards regardless of size or efficiency. We have designed these units to significantly reduce the most frequent causes of product failure. They are simple to service and forgiving to operate. We use quality materials and components. Finally, every unit is run tested before it leaves the factory. That's why we know. . . **There's No Better Quality.**

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