

# SYSTEM CONTROL KIT

Model: CK-41F



Designed for use with the SWG Series Power Venter for controlling Natural Gas or L.P. Gas appliances.

## ITEMS INCLUDED IN KIT:

- 1- Junction box with mounted pressure switch and post purge timer
- 1- Fan control gas pressure switch
- 1- 2 ft. length of 1/4" aluminum tubing
- 2- Flexible conduit connector
- 1- GSK-3 Spillage switch
- 1- 1/4" tubing connector

**READ THESE INSTRUCTIONS CAREFULLY AND COMPLETELY BEFORE PROCEEDING WITH THE INSTALLATION.**

This device **MUST** be installed by a qualified agency in accordance with the manufacturer's installation instructions. The definition of a qualified agency is: any individual, firm, corporation or company which either in person or through a representative is engaged in, and is responsible for, the installation and operation of HVAC appliances, who is experienced in such work, familiar with all the precautions required, and has complied with all the requirements of the authority having jurisdiction.

Please retain these instructions after installation.

Installed By: \_\_\_\_\_ Phone: \_\_\_\_\_ Installation Date: \_\_\_\_\_



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## MOUNTING JUNCTION BOX

The junction box can be mounted at the venter or remotely mounted away from the venter. (See Figure 1 & Figure 2)

NOTE: Make sure pressure switch is in a vertical position. The pressure switch will not sense properly in a horizontal position.

1. Remove one of the knockouts from the side of the junction box where the pressure switch is mounted. Install the flexible conduit connector onto the CK-41F junction box and secure with fastening nut. If remote mounting the CK-41F junction box, mount the flexible conduit connector onto a 2" x 4" installer supplied junction box.
2. Fasten the flexible conduit from the SWG Venter into the conduit connector. Mount the CK-41F junction box or installer supplied junction box onto the wall or floor joist without straining the flexible conduit. Fasten the CK-41F junction box through the four dimpled locations on the base of the box. (See Fig. 3)

## PRESSURE SWITCH SENSING TUBE INSTALLATION

1. Attach the 1/4" tubing connector to the pressure tube on the SWG Venter. (See Figure 3)
2. Connect the supplied 1/4" aluminum tubing to the tubing connector. Route the tubing to the CK-41F junction box and connect the tubing to the pressure switch. When routing the tubing, avoid kinking the tubing by bending the tubing too sharply.

For remote mounted CK-41F Junction Box, use a 1/4" OD copper, aluminum or plastic tubing and route the tubing to avoid contact with any heat source. A maximum of 80 feet of 1/4" tubing can be used with the SWG Series power venter.

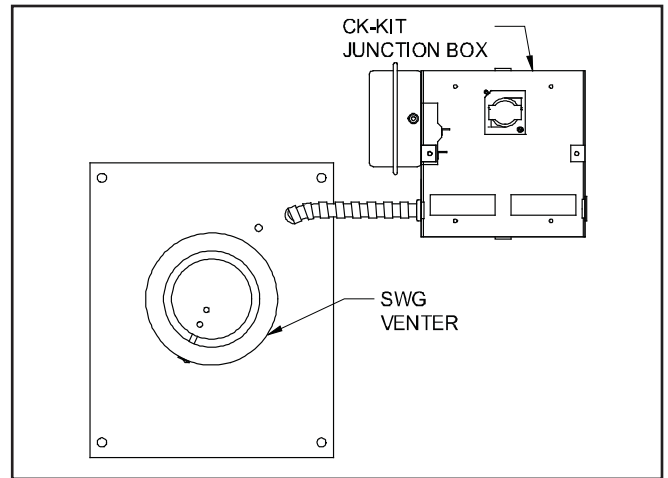


Figure 1

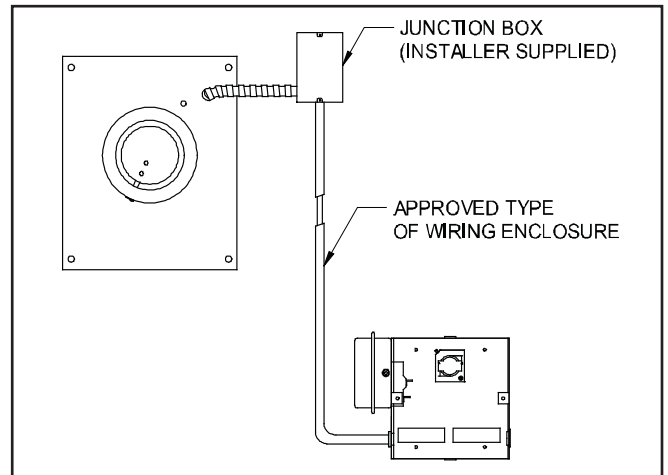


Figure 2

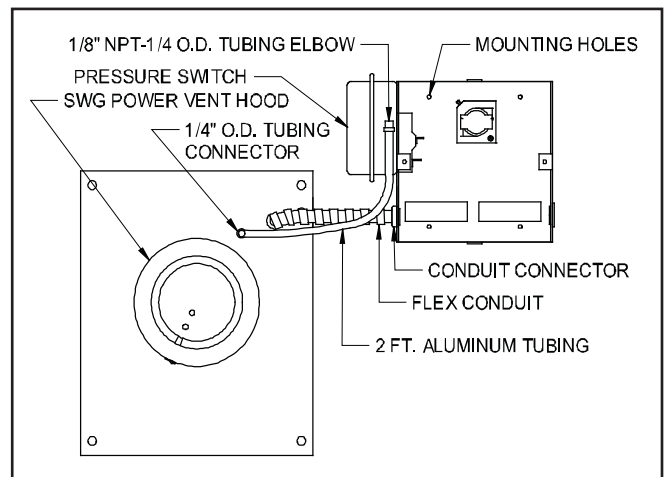


Figure 3

### PROVING SWITCH ADJUSTMENTS

After proper air flow is established, the pressure switch adjustment is made by turning the pressure switch adjustment screw clockwise (See Figure 4) until burner operation stops. Turn the adjustment screw counter clockwise until burner ignites. Turn the adjustment screw an additional  $\frac{1}{4}$  to  $\frac{3}{4}$  turn counterclockwise to ensure adequate switch adjustment.



**WARNING:** Failure to properly adjust the pressure switch as specified above could lead to improper operation of the pressure switch, which will result in a hazardous condition and bodily harm!

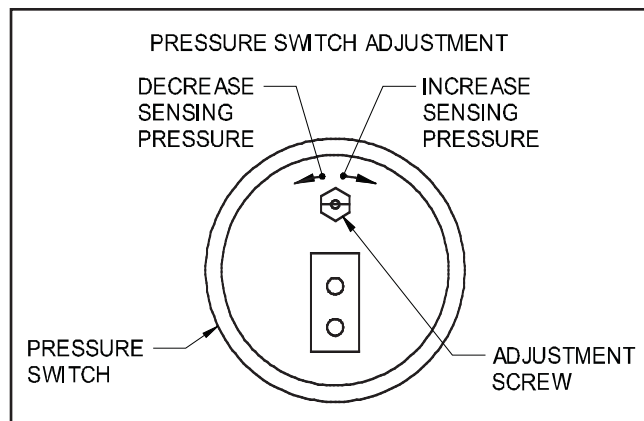


Figure 4

### THERMOSTAT HEAT ANTICIPATOR ADJUSTMENT

After venting kit installation and checkout, check the amperage current draw through the thermostat circuit and adjust the thermostat anticipator accordingly.

### WIRING INSTRUCTIONS

**CAUTION: DISCONNECT ELECTRICAL POWER WHEN WIRING POWER VENTER.**

Wire the venter motor and controls in accordance with the National Electrical Code, manufacturer's recommendations and/or applicable local codes. **UNITS MUST BE GROUNDED.** Check ground circuit to make certain that the unit has been properly grounded. The wiring should be protected by an over-current circuit device rated at 15 amperes. **CAUTION** must be taken to ensure that the wiring does not come into contact with any heat source. All line voltage and safety control circuits, between the venter and the appliance, **MUST** be wired in accordance with the National Electrical Code for class one wiring or equivalent methods. Route the venter motor and control wiring with an appropriate wiring method. Refer to Wiring Diagrams.

### LOW VOLTAGE WIRING INSTRUCTIONS FOR BOILERS AND WARM AIR FURNACES

1. With boilers, locate terminal on spark ignition module or gas valve, (if standing pilot) which would normally be 24 volts hot on a call for heat. With spark ignition systems, this terminal could be TH-W or 24 V depending on the spark ignition control.
2. With warm air furnaces, locate terminal W in furnace junction box.
3. Remove wire from this terminal and reroute to T1 on CK-41F.
4. With boilers, connect T3 on CK-41F to hot side of gas valve (if standing pilot) or to terminal TH-W or 24 V, if spark ignition.

**NOTE:** Remember, the correct terminal is the one that would normally be hot on a call for heat.

5. With warm air furnaces, connect T3 on CK-41F to terminal W in furnace junction box.
6. Connect T2 on CK-41F to a 24 volt neutral on transformer or where convenient, or to the C terminal in the furnace fan center.

### LINE VOLTAGE WIRING INSTRUCTIONS

1. Connect 120 volts hot power source wire to terminal L1 on CK-41F.
2. Connect 120 volts neutral power source wire and white wire from venter motor to terminal N on the CK-41F.
3. Connect black wire from venter motor to terminal M on the CK-41F.

REFER TO THE SWG VENTER INSTALLATION INSTRUCTIONS FOR SETTING SYSTEM AIRFLOW.

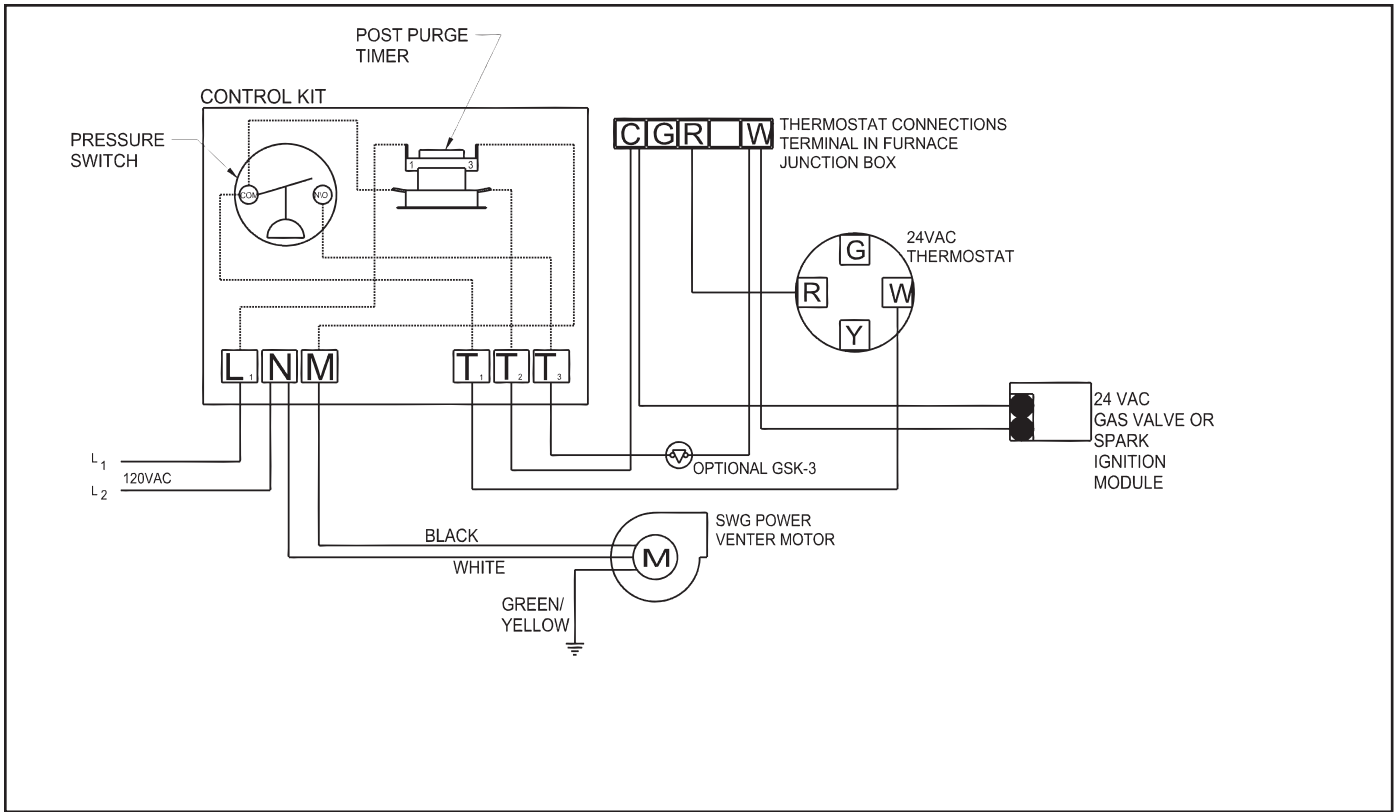


Diagram A  
Typical Furnace Wiring

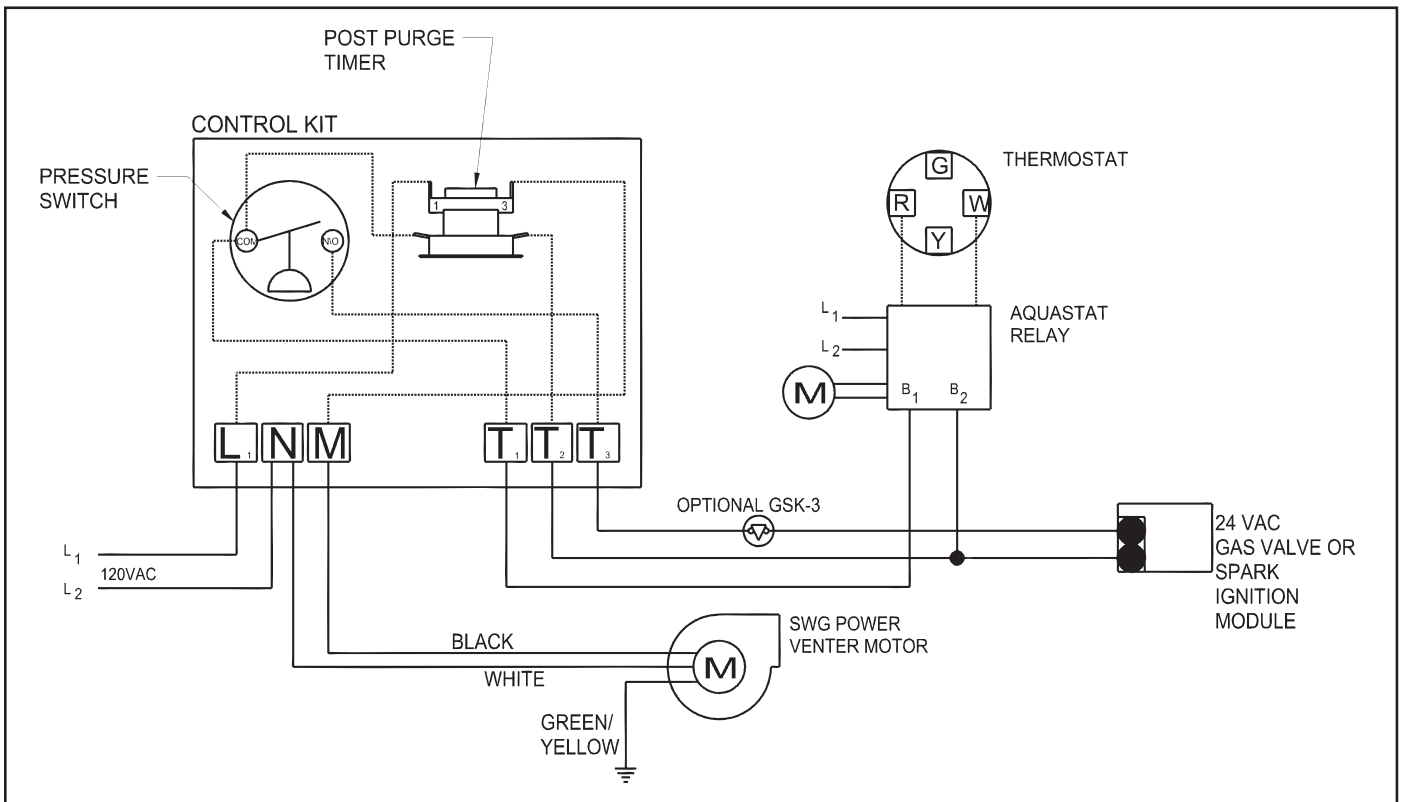
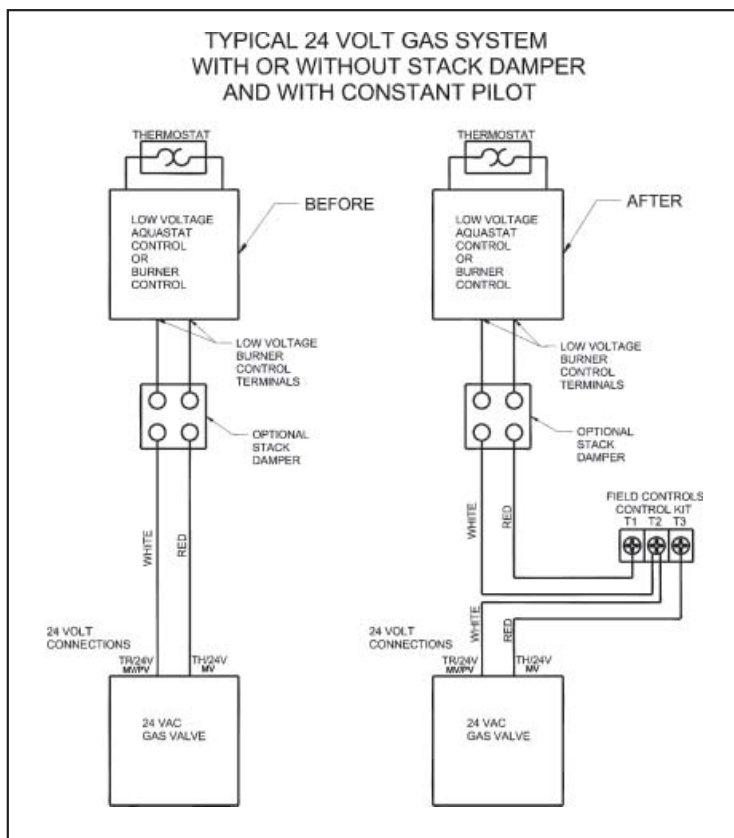
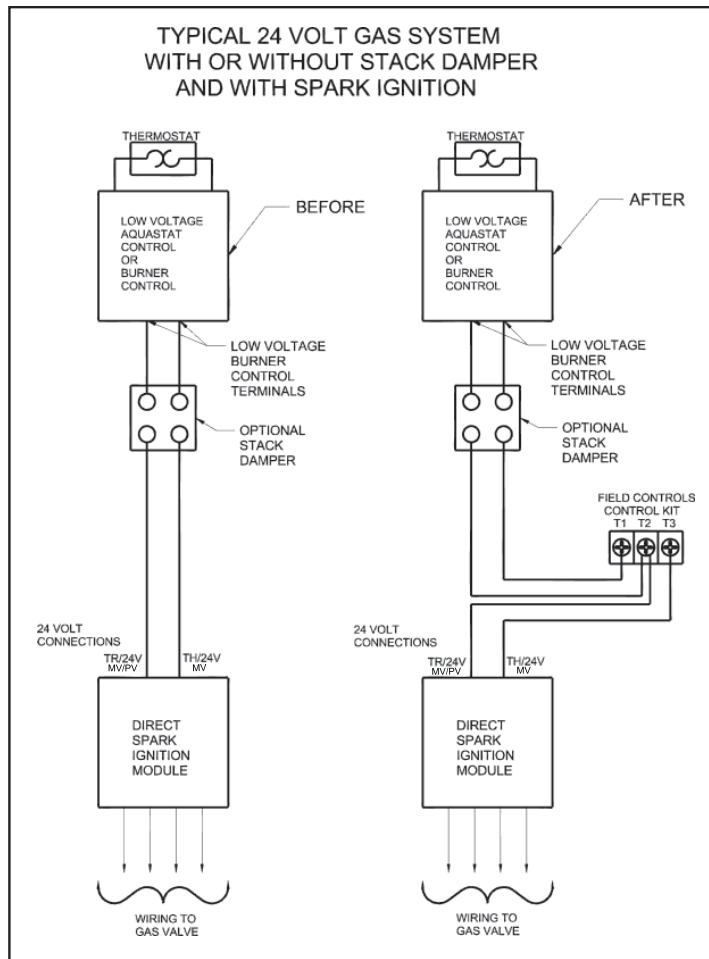


Diagram B  
Boiler Wiring with Aquastat



# TYPICAL MULTIPLE 24 VOLT GAS SYSTEM WITH OR WITHOUT STACK DAMPER AND WITH SPARK IGNITION

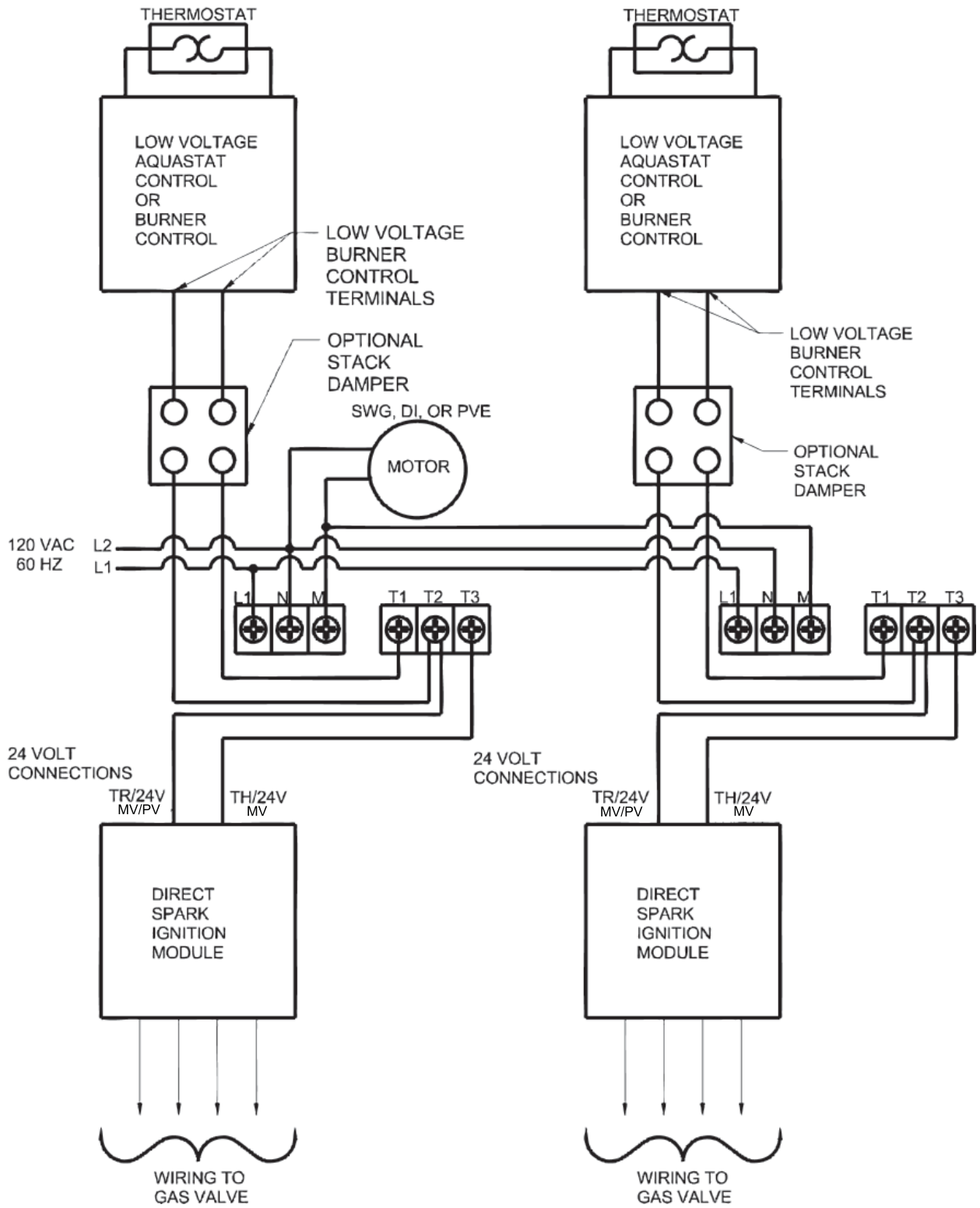


Diagram E

## SYSTEM CONTROL CHECK OUT PROCEDURES

1. For furnaces or boilers, adjust the thermostat to call for heat and observe the power venting system for proper operation sequence. (Repeat if necessary)
  - a. Thermostat calls for heat.
  - b. Relay is energized and venter motor starts.
  - c. Pressure switch closes and burner starts.
  - d. Thermostat is satisfied, the burner stops.
  - e. This starts the post purge cycle. Purge time 1 to 2 min.
2. While system is operating, disconnect power to the venter motor. This should open the pressure switch contacts and stop burner operation.

## TROUBLE SHOOTING HINTS

1. Venter does not activate when thermostat calls for heat.
  - a. Check wiring.
  - b. Check for 24 volts between T1 and T2 on the CK-41F control kit.
  - c. If there is 24 volts replace post purge timer.
2. Flue gas odor.
  - a. Check system draft.
  - b. Check for negative pressure in building.

## REPAIR AND REPLACEMENT PARTS

REPAIR AND REPLACEMENT PARTS LIST	
DESCRIPTION	PART NUMBER
Pressure Switch	46083000
Post Purge Timer	46282800

## Warranty

For warranty information about this or any Field Controls product, visit:  
[www.fieldcontrols.com/warranty](http://www.fieldcontrols.com/warranty)



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