

### APPLICATION

The L4080 and L8080 are immersion type controllers for hydronic heating systems that turn off the burner whenever the boiler water temperature rises to the set point.

The L4080 is used to provide high limit protection for line voltage and low voltage systems.

The L8080 is used only as an energy cut-off control (ECO).

All models are available for use with immersion wells, or for direct immersion if faster response is needed. To order immersion well, refer to form 68-0040 for well descriptions.

The L4080 has an adjustable set point. The L8080 is factory-set.

### INSTALLATION

#### WHEN INSTALLING THIS PRODUCT. . .

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

### CAUTION

Disconnect power supply before connecting wiring to prevent electrical shock or equipment damage.

### MOUNTING

The L4080 or L8080 Aquastat Controller is mounted in a tapping provided by the boiler manufacturer in a location where it will sense average water temperatures.

1. Disconnect power supply and drain boiler.
2. If no tapping is provided, prepare one at a location that will permit boiler water of average temperature to circulate freely about the element.
3. Install immersion well in boiler tapping, tighten securely. Insert sensing element in well, tighten set-screw.
4. Refill boiler and check for water leaks. If well needs tightening, use wrench on hex nut only.

### SETTINGS (L4080 only)

Because heating systems differ, follow the burner manufacturer's recommendations when selecting the proper Aquastat controller setting.

Turn the notched wheel until the desired high limit setting coincides with the arrowhead indicator at the side of the switch.

### WIRING

Disconnect power supply before connecting wiring to prevent electrical shock or equipment damage.

All wiring must comply with applicable codes and ordinances.

Wire the L4080 in the control circuit. Wire the L8080 in series with the gas control power unit. Figs. 1-4 show typical wiring diagrams.

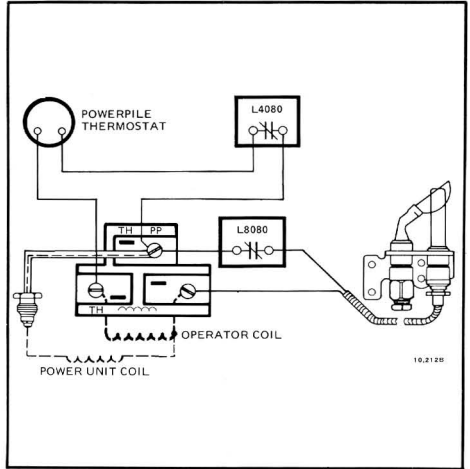


Fig. 1—Typical wiring hookup for 3-terminal Powerpile control systems.

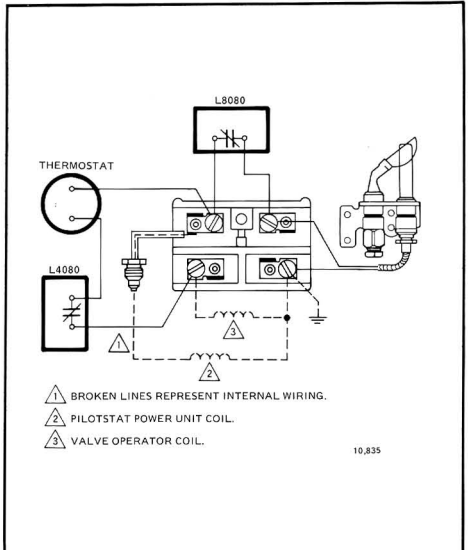


Fig. 2—Typical wiring hookup for 4-terminal Powerpile control systems.

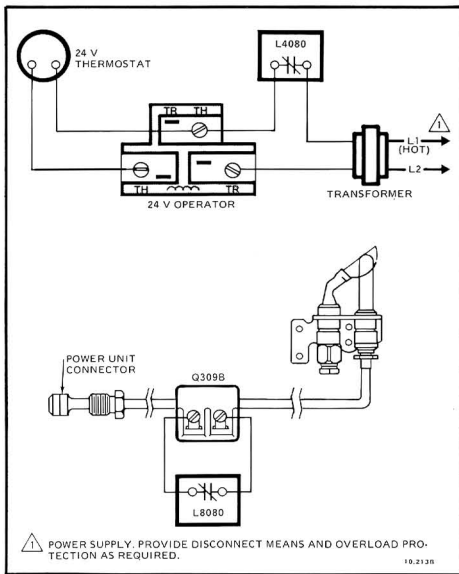


Fig. 3—Typical wiring hookup for 24 V systems.

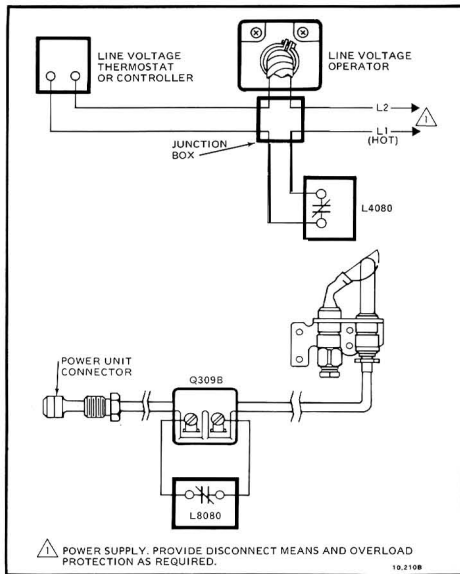


Fig. 4—Typical wiring hookup for line voltage system.

## OPERATION

When the water temperature rises to the L4080 or L8080 set point, the liquid fill in the sensing unit expands, actuating a diaphragm which interrupts the power supply to the burner primary control (L4080) or the Pilotstat power unit (L8080).

When the L4080 interrupts power to the burner primary control, the system automatically recycles when the water cools and the L4080 switch closes.

When the L8080 interrupts power to the Pilotstat power unit, the water must cool to approximately 120 F [49 C] and the gas control's power unit must be reset before the system will operate.

## CHECKOUT

### CAUTION

Do not operate burner by jumpering gas valve terminals; this bypasses the temperature and limit controller.

Turn on the power supply. Start the heating system according to instructions supplied with the burner control or main gas valve. Turn the L4080 to the low end of its range, and be sure the control shuts off the burner when the set point is reached. Set the L4080 Aquastat Controller to the manufacturer's recommended setting before leaving job.

The L8080A is factory-set and nonadjustable. Check that the power unit drops out and that gas flow is interrupted when the L8080's set point is reached (200 F [93 C]). Reset power unit before leaving job.