

Service Bulletin EP-22

Models: AE115, AE125, RP17PT, RP27PT

Replacing Control Board



BOSCH

PowerStar AE115 & AE125

Powerstream Pro RP17PT & RP27PT



WARNING

IF TRIAC SCREWS ARE NOT TIGHT, LOCKWASHERS ARE NOT INSTALLED OR HEAT SINK PASTE NOT APPLIED, TRIACS CAN OVERHEAT AND CAUSE HEATER FAILURE.



WARNING

ELECTRICITY IS EXTREMELY DANGEROUS. TAKE EXTRA PRECAUTIONS AND ENSURE ALL CIRCUIT BREAKERS ARE OFF BEFORE PERFORMING ANY WORK TO THE HEATER.

Preparation

Note: This bulletin is only for heaters with polymer heating modules. For units with copper heating modules, refer to bulletin TWH-E2-22

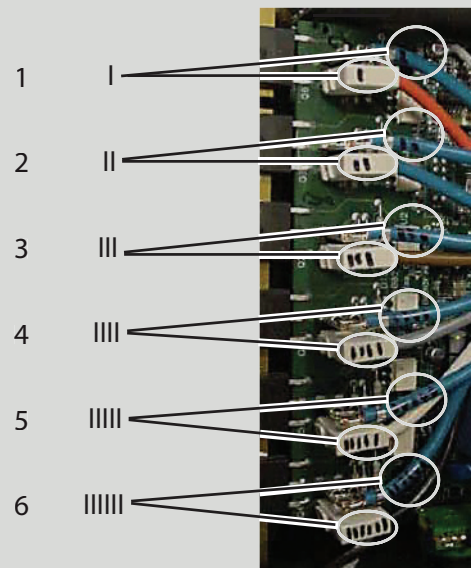
1. Turn off breakers at breaker box for the water heater.
2. Close installer supplied shutoff valves.
3. Remove front cover from heater.
4. Remove control board cover. Cover is secured with one screw. Remove neon light from clip inside cover.
5. Label wires on control board as shown in Fig. 1. The AE125/RP27PT model control board is shown.

Note: Models AE115/RP17PT will have 8 wire connections.

Note: Models AE125/RP27PT will have 12 wire connections.

Note: The wires must be installed in the same sequence as the original configuration. Improper installation of these wires will result in the unit not operating properly.

Figure 1



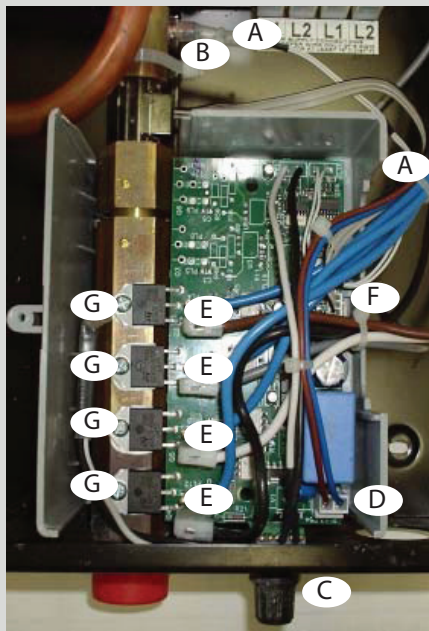
AE125/RP27PT CONTROL BOARD SHOWN

Removing Control Board

1. Cut cable tie that secures the thermistor wire. (Fig. 2, A)
2. Open hot water taps to relieve water pressure in heater.
3. Loosen inlet water connection to drain water in heater. This will also allow access to the inlet water filter which should be inspected and cleaned.
3. Remove two screws and plate from thermistor. Hold a rag under thermistor to catch any residual water. Remove thermistor from polymer module. Save o-ring on thermistor for reinstallation on thermistor of new control board. (Fig. 2, B)
4. Remove temperature control knob by pulling it down away from the unit. (Fig. 2, C)
5. Remove the nut and washer that secures the temperature control knob. Save nut and washer for reinstallation of new control board.

6. Disconnect two-wire main power plug from control board. (Fig. 2, D)
 7. Remove wires from spade connectors by using needle-nosed pliers. These wires are a tight fit on control board. (Fig. 2, E)
 8. Disconnect flow transducer wire connector from control board. (Fig. 2, F)
 9. Remove all triac screws and lock washers and save for reinstallation of new control board. (Fig. 2, G)
- Note: Models AE115/RP17PT will have 4 triacs.**
Note: Models AE125/RP27PT will have 6 triacs.
10. Remove control board and set aside.

Figure 2



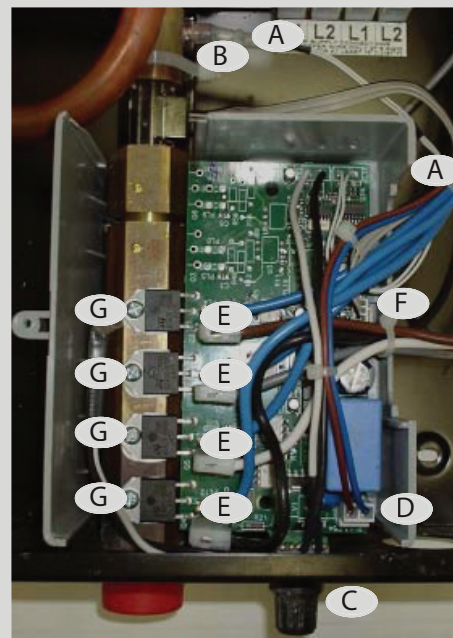
AE115/RP17PT MODEL SHOWN

Installing new control board

1. Apply a small amount of heat sink paste to the back of each of the triacs. (See old control board for paste application locations.) Set control board into place and be sure right side of control board is seated under tab on side of control board housing. Install triac screws with lock washers. Screws must be tight for proper heat transfer. (Fig. 3, G)
2. Reconnect flow transducer connector to control board. (Fig. 3, F)
3. Reconnect all wires to spade terminals. (Fig. 3, E) Be certain that all the wires are reconnected in the same order as they were on the original control board. Improper installation will result in the unit not operating properly.
4. Reconnect two-wire main power connection to the control board. (Fig. 3, D)
5. Install temperature control knob assembly through the bottom of the heater. Install washer between the bottom of the unit and the nut. Hand tighten nut on the bottom of the unit. (Fig. 3, C)

6. Install o-ring from old thermistor onto new thermistor. Insert thermistor probe into polymer module. Install plate and two screws to thermistor and tighten screws. (Fig. 3, B)
7. Install new cable tie to secure thermistor wire. Cut off excess cable tie. (Fig. 3, A)

Figure 3



AE115/RP17PT MODEL SHOWN

Returning water heater to service

1. Attach neon light to back of control board cover and reinstall cover.
2. Reconnect inlet water connection to heater.
3. Open installer supplied water shutoff valves. Open a hot water faucet to purge all air from the heater before turning power back on.
Note: Failure to purge air from the heater before turning power back on will result in premature element failure.
4. Turn on breakers at breaker box for water heater.
5. Open a hot water tap supplied by this unit to verify proper operation. When flow exceeds 0.8 gallons per minute for the AE125/RP27PT and 0.6 gallons per minute for the AE115/RP17PT, the neon light should be lit.
6. Reinstall front cover.

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