



TH-600:

The first step in testing the TH-600 controller is to confirm that there is 24 VAC powering the board using a voltmeter. To do this, verify you have 24 VAC across RV1 (located near the board's terminal block).

If there is 24 VAC then turn the power off and do the following;

- 1) Note the on-board potentiometer setting (so you can set it back to same value when test is over) and set it to 10. **Note:** the slotted wiper has a red arrow indicator.
- 2) Set the main dual energy switch on the board to center position.
- 3) Disconnect the boiler tank temperature sensor wires from the terminals 'S' and 'S' (or WT). When that sensor is removed, the boiler heater demand will always be full on, so be sure not to let the boiler heaters run more than few minutes. Make sure you reconnect this sensor when test is over.
- 4) Disconnect the wires from 'OT' and 'OT' going to the outdoor temperature sensor (if equipped). Don't forget to reconnect them when the test is over.
- 5) Disconnect the wires from 'S1' and 'S2' going to the electric utility company's load management controller/dual-energy sensor (if equipped), and short the terminals with a small jumper. Don't

forget to remove the short and reconnect the management controller when the test is over.

- 6) Disconnect the wires from 'W1' and 'C', and short the terminals with a small jumper. Don't forget to remove the short and reconnect the thermostat when the test is over.

Turn on the 24VAC power and verify that all the LEDs light up slowly in the following order (with various delays): LD11 (Electric), followed by LD1, LD6 (which will be flashing), LD2, LD3, LD4, LD5. Once LD5 lights, LD1 will turn off. If any LEDs stay off, the controller is defective and a replacement is required.

Once all LEDs are ON, make sure the pump/valve is ON. If not, take a voltmeter and verify 24-30 VDC across the coil of the relay that control the pump/valve.

Now manually set the main dual-energy switch to OIL position and verify that all the LEDs turn off slowly, and then LD12 (OIL) LED turns ON. Verify with an ohmmeter that the resistance across 'B' and 'B' is zero ohms (or close to zero).

If all of the above is verified, then the controller is good.

Tip: You may put back the dual-energy sensor wires, thermostat wires, and temperature sensor wires, one pair at a time to further isolate the problem (if the controller board is good).



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