THERMOLEC

TH-400 (Plenum Heater):

The first step in testing the TH-400 controller is to confirm that there is 24 VAC powering the board using a voltmeter. To do this, verify you have 24 VAC across MOV1 (located near the board's terminal block).

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

1) Set the main dual energy switch on the board to center position.
2) 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 small jumper. Don't forget to remove the short and reconnect the management controller when the test is over.
3) Disconnect the wires from 'W1' and 'C', and short the terminals with small jumper (don't forget to remove the short and reconnect the thermostat when test is over).

Turn on the 24 VAC power and verify that the 'Dual Energy' LED lights up after few seconds. All element control output stages (to relays) should also turn on slowly in sequential order. You can also verify there is 24-30 VDC across each of the element control relay coils.

Upon first stage, make sure the fan is ON. If not, take a voltmeter and verify 24-30 VDC across the coil of the fan relay.

Manually set the main dual-energy switch to OIL position and verify all the elements/relays slowly turn off, and then “OIL/GAS” 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 and thermostat wires, one pair at a time to further isolate the problem (if the controller board is good).