THERMOLEC

D22-B:

The first step in testing the D22-B controller is to confirm that there is 24 VAC powering the board, using a voltmeter. Top left connections on the board.

If 24VAC is good then turn power off and continue.

Set the following:

1) Note the blue potentiometer setting (so you can set it back to same value when test is over) and set it to 10. (**Note**: the white slotted wiper has an arrow indication).
2) Disconnect the boiler tank temperature sensor wires from the terminals S and S. When that sensor is removed, the boiler heater demand will always be full on, so care must be taken to not let boiler heaters run more than few minutes. Make sure you reconnect this sensor when test is over.
3) Disconnect the wires from OT and OT going to the outdoor temperature sensor (if equipped). Don't forget to re-connect them when test is over.
4) Disconnect the wires from S1 and S2 going to the Electric Utility company's load management controller (if equipped), and short the

terminals with small jumper. Don’t forget to remove the short and re-connect the management controller when test is over.

5) Disconnect the wires from W1 and C and short the terminals with small jumper. Don’t forget to remove the short and re-connect the thermostat when test is over.

Now turn 24 VAC power on and verify the LED’s light up slowly in the following order: PUMP, LD1, LD2, STG3. If any LEDS stay off, the controller is defective and replacement is required. Once all LED’s are on, take a voltmeter and verify 24-34 VDC on pump relay and STG3 relay terminals (with respect to COM terminal) if so, the controller is good.

Please note, that these controllers have power outputs. It is possible after many switching cycles that the built-in triacs (LD1/LD2) will stay stuck in a closed or open position. The control side of the board might still be good, but the power side will not operate. If the triacs are stuck closed, the thermal cut-outs will cut power to the unit. If the triacs are stuck open, the unit will not put out any heat even if there is a demand.

You may put back the sensor wires, load management wires, thermostat wires, one pair at a time to further isolate the problem (if the controller board is good).

NEW Feature (V2.2 and above): New feature implemented that if the board overheats(> 93degC), the unit will open contactors and disable

heat (shown by Yellow LED constantly ON). After 10 of these cycles the board will go into permanent lock-out and must contact Thermolec.

August 2017