

This Conversion MUST be Performed by a Licensed Electrician

TMB Control Board Conversion Instructions

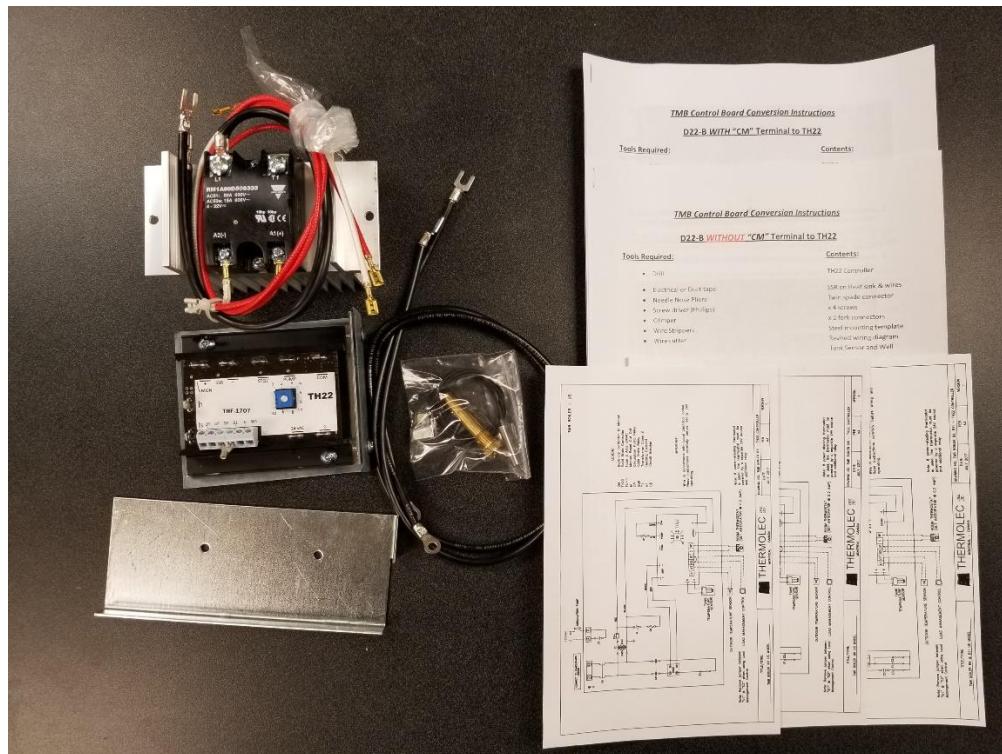
D22-B *WITH* "CM" Terminal to TH22

Tools Required:

- Drill
- Electrical or Duct tape
- Needle Nose Pliers
- Screw driver (Phillips)
- Crimper
- Wire Strippers
- Wire cutter

Contents:

- TH22 Controller
- SSR on Heat sink & wires
- Twin spade connector
x 4 screws
- x 2 fork connectors
- Steel mounting template
- Revised wiring diagram
- Tank Sensor and Well



1. **Be sure to use the proper set of instructions.** Determine if the existing control has a “CM” terminal between Terminal **GND** and **W1**



2. **Before starting: Disconnect electrical power at the entry panel.** Power should **NOT** be present anywhere within the boiler while performing this procedure, use a meter to confirm.
3. It is strongly recommended that the right inner edge be lined with tape before starting - **it can be sharp.** (Fig. 1)
4. Disconnect low voltage control wires from D22-B (W1, C, S1, S2, OT, OT) and set them out of the way.

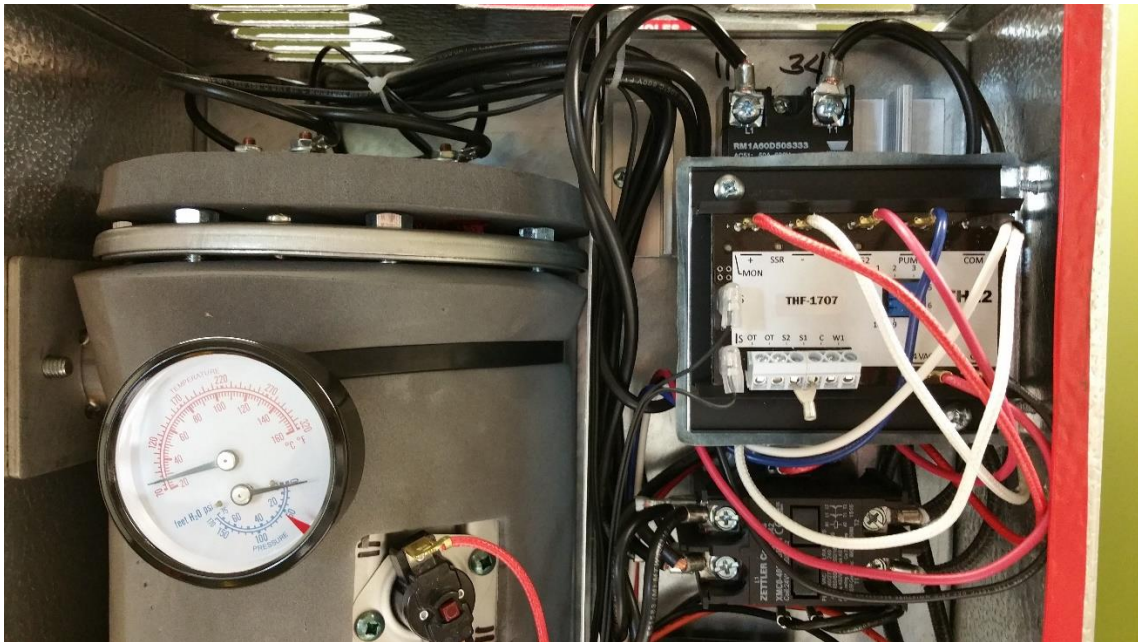


Figure 1.

5. Connect the twin spade connector to the control fuse (Fig. 2) on the side going to the

“24VAC” on the D22-B and reconnect same wire to twin spade connector on one side of twin spade connector.

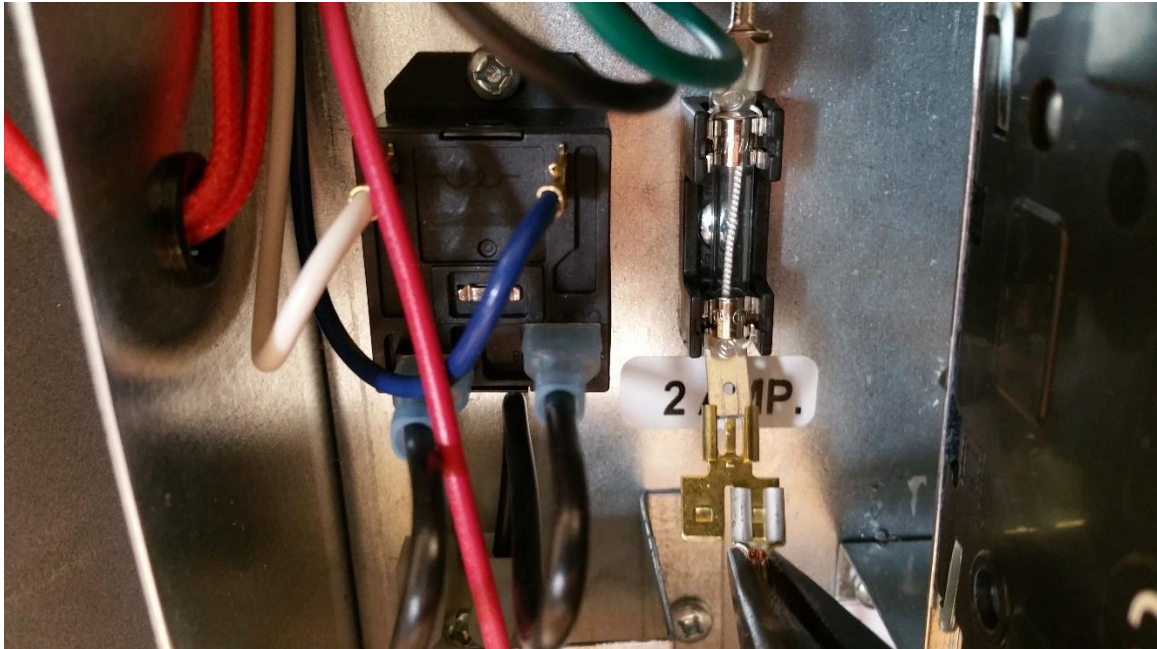


Figure 2

- Remove the “24VAC” wire from the D22-B and re-connect it to the “24VAC” on the TH22
- Remove the “GND” from the D22-B and re-connect it to the “G” on the TH22
 - Remove the wire between “CM” on the D22-B and the manual reset limit completely and discard (Fig. 3). Connect one end of the red wire supplied to the twin spade connector and the other end to the bottom spade of the manual reset limit.

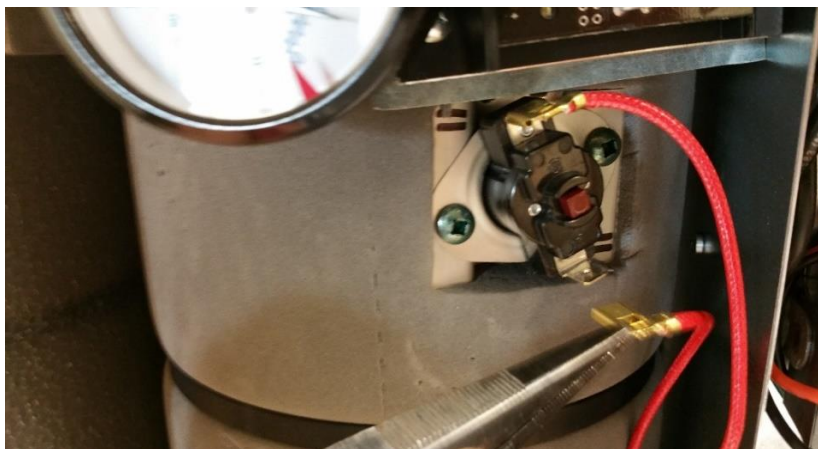
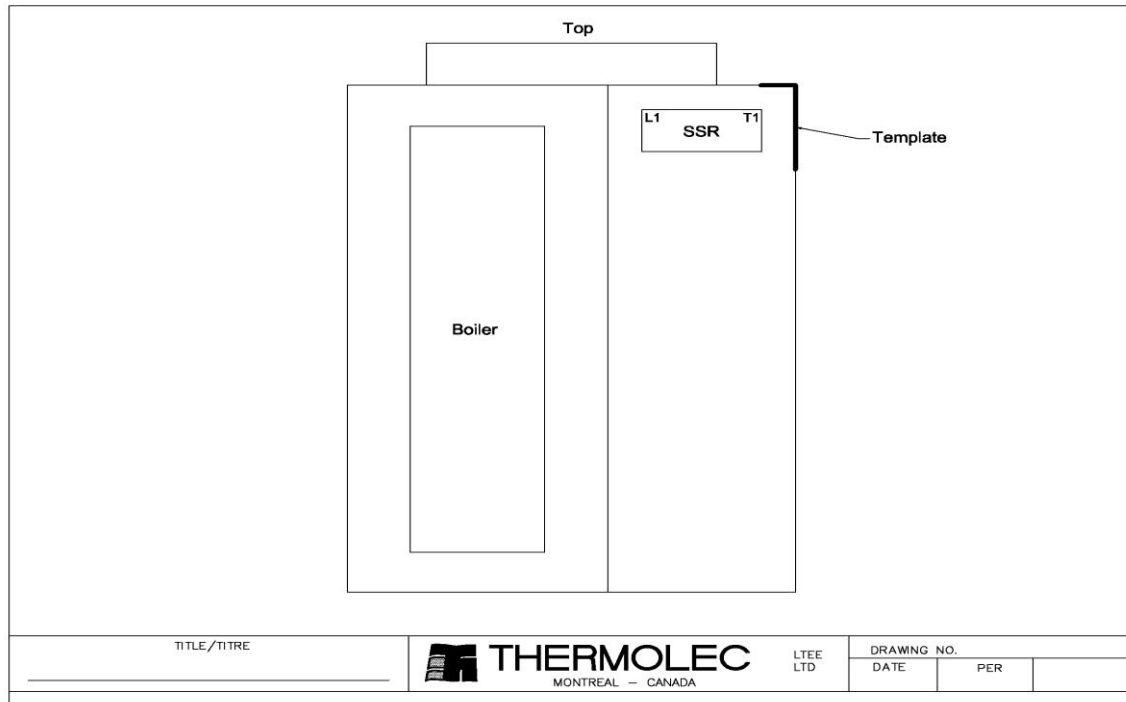


Figure 3

- Remove the “COM” from the D22-B and connect it to the “COM” on the TH22.
 - Remove the “Pump Relay” from the D22-B and connect it to the “Pump” spade on the TH22.
 - Remove the “STG3” from the D22-B and connect it to the “STG2” on the TH22
 - Remove the “SS” wires from the D22-B and set aside.
6. Remove the “Line 1” and “Line 2” wires from the contactor to D22-B and discard.
 - a. Securely label “Load 1” and “Load 2”, then disconnect from the D22-B (replacement wires are provided if existing are damaged).
 - b. Remove the D22-B from the unit.
 7. Install the replacement SSR in the boiler where the D22-B was installed and secure with two provided screws. Make sure the replacement SSR has the “L1” and “T1” facing the top of cabinet (see the diagram on next page).
 8. If installing in a **B3** (single element) unit, REMOVE one of the wires from L1 on the new SSR and discard.
 9. Cut the ¼” quick connect terminals off at the end of the “Load 1” and “Load 2” wires and crimp the fork connectors supplied to the ends of those wires.
 10. Connect the end of both wires you just crimped, to the “T1” of the SSR.
 11. Take the two wires connected to the “L1” of the SSR and connect them to the “L1” of the backup contactor (directly above circuit breaker).
 12. Attach metal mounting template supplied to top right corner of the cabinet to pilot the holes needed to mount the TH22. Drill through the two mounting holes on the template. **Note:** Mounting template is used to only show where to drill holes, discard when complete.



13. Secure the TH22 using the new mounting holes and two provided screws.
14. Connect the red (+) and white (-) wires from the SSR to the SSR output spades on the TH22.
15. Connect the tank sensor wires (top of tank) to terminals “S” and “S” on the TH22.
- ❓ *** A new Sensor and Well have been provided if required.**
16. Reconnect control voltage wires (W1, C, S1, S2, OT, OT)
17. Confirm that all electrical connections are connected to the proper terminals and are tight.
18. Apply provided wiring diagram over the existing one on the unit cover.
19. Reapply power and test for proper operation by initiating a call for heat.