Terminal CSTI, Terminal block

When a unit is ordered with a CSTI (customer supplied terminal interface), the factory will install a red board (see picture below) **that will act like a terminal block.** This board is necessary for factory testing purposes and as a bridge to wire up to the ECM motor board (blue board).

There are four dip switches labeled as SW1, SW2, SW3, and SW4. These switches can alter or manipulate control signals coming from a thermostat or 3rd party controller. These switches are factory set based upon model number ordered.

Quick note: Normally open and normally closed valves refer to the flow of a valve to the coil in a de-energized state (no power).

SW1 is for V1 (valve 1 or main valve 1) that can either designate the valve as normally open (NO) or normally closed (NC). Since most thermostats do not have the capability to determine if a valve is normally open or closed, that is why the factory supplies this switch. This switch either allows the signal to pass through (NC) or disallows the signal to pass through (NO).
When the switch is set to (NO), a constant 24 volt signal is sent to a normally open valve to keep it closed.

SW2 is for V2 (valve 2 or auxiliary valve 2). Same operation as described above (SW1)

SW3 is for CO (changeover) if you have a 2 pipe changeover system or 2 pipe Changeover with electric heat. This switch in combination with other settings on the ECM motor board allows or disallows a signal to the main valve based upon the water temp.
In short if you have 85 deg. F water or colder, it will allow cooling signal to pass through to valve. If you have 90 deg. F water or hotter it will allow the heating signal to pass through for hydronic heating. If water temp is in between these to two temperatures, it will disallow the signal or heat with electric heat only. Trying to go into further depth of operations about this is beyond the scope of this document.

SW4 is for EH (electric heat interlock). This switch (when on) will turn on the fan motor to high speed when operating electric heat.

Keep in mind that this CSTI board is just a pass through device. **It is acting like a terminal block**. *With the exception of the switches mentioned above*, it will act like a terminal block and has no real controlling logic.
It is not a controller, and does need commands to run the fan, valves, dampers, etc. These commands can come from a field supplied thermostat or 3rd party controller.

If the CSTI has safety devices tied to it, such as a freeze stat or condensate overflow switch, it will **NOT** shut down the unit on its own. It is up to the field to interpret continuity or non-continuity across terminations on the terminal block on the CSTI board.

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If field installed devices (valves, dampers, sensors, electric heat, etc.) are being added to the unit, it might be simpler and cleaner to hook the control wiring directly from the device to the controller and skip the CSTI board.

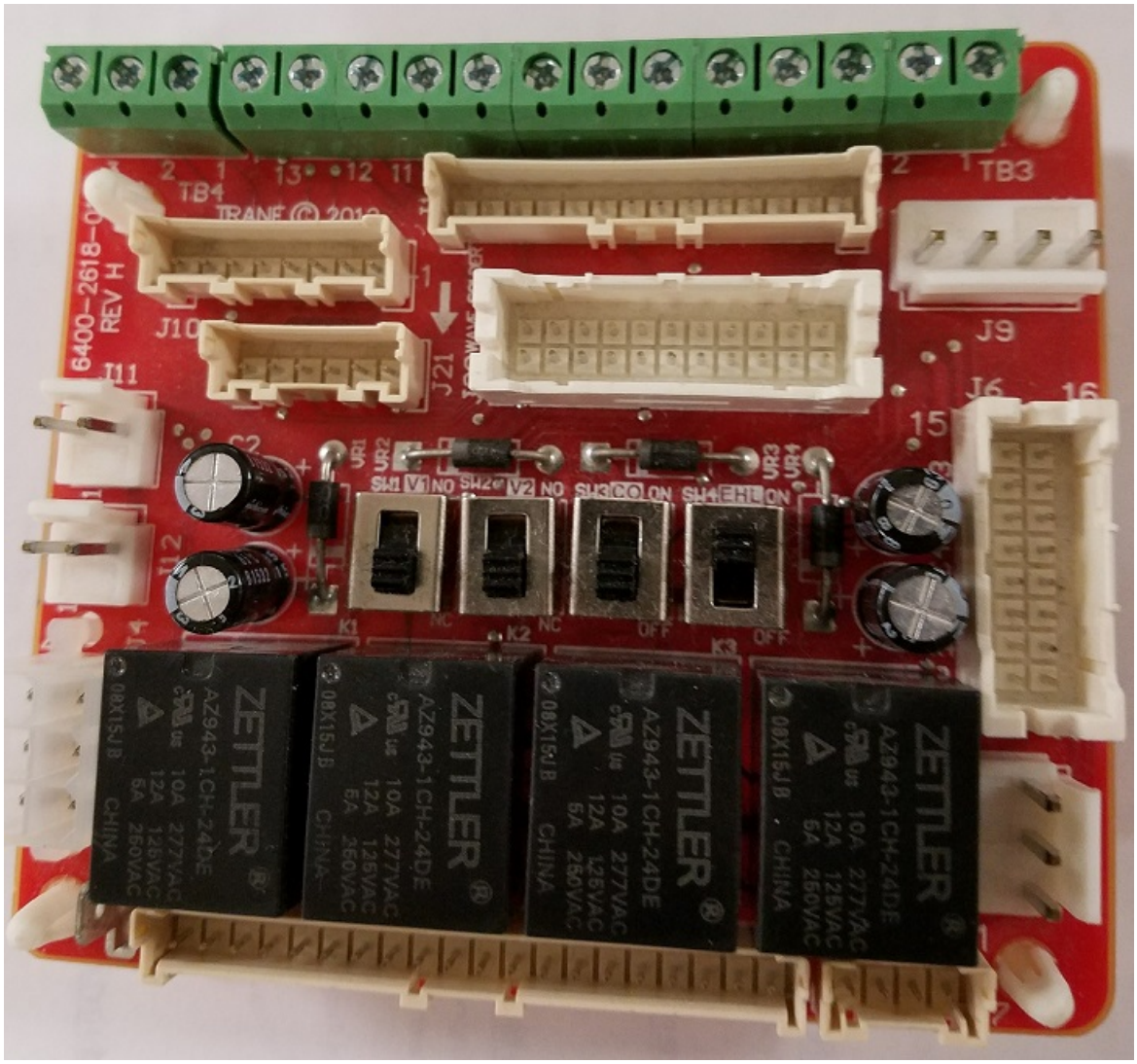
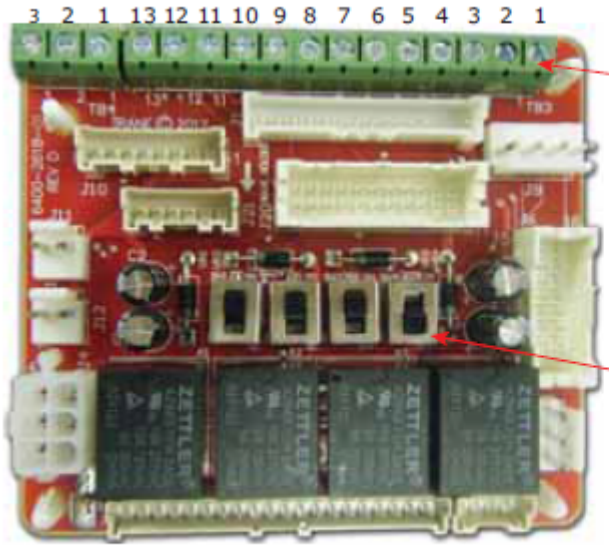


Figure 56. CSTI adapter board and field connections



1. VSP 10V
2. VSP 0–10V
3. VSP DC COM

1. 24 Vac B (hot)
2. 24 Vac Y (gnd)
3. High
4. Medium
5. Low
6. V1Op/Cooling
7. V1CI (not std)
8. Not used
9. Not used
10. V2Op/EH1St/Heating
11. V2CI/EH2St (not std)
12. Damper Open
13. Dmp CI (not std)

Two terminal blocks reading right to left:
TB3: 1- 13 for 24v inputs.
TB4: 1-3 for variable speed control. 0-10VDC

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