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SYSTEMS, INC.

Applications Note 902
Using an Overtemp Alarm

Question: How do you wire a Temperature Control with an Overtemp Alarm?

Answer: Overtemps are often added to a process to prevent serious damage if one of the Main Control elements fails. The failure may be caused by an SSR (Solid State Relay), Relay, TC or the Temperature Controller itself. Overtemps may be required by your plant safety code, or may be required by someone like NFPA or Factory Mutual.

In order to meet safety requirements two separate control devices and two separate sensors are required. Generally if an Overtemp Alarm is detected, the system is shut down and latched off until the operator checks it and determines the cause for the error. The Overtemp Alarm may also be annunciated to a separate system such as a PLC. The two controllers use separate TC's to monitor the furnace.

Temperature Controller with Overtemp Shut-off
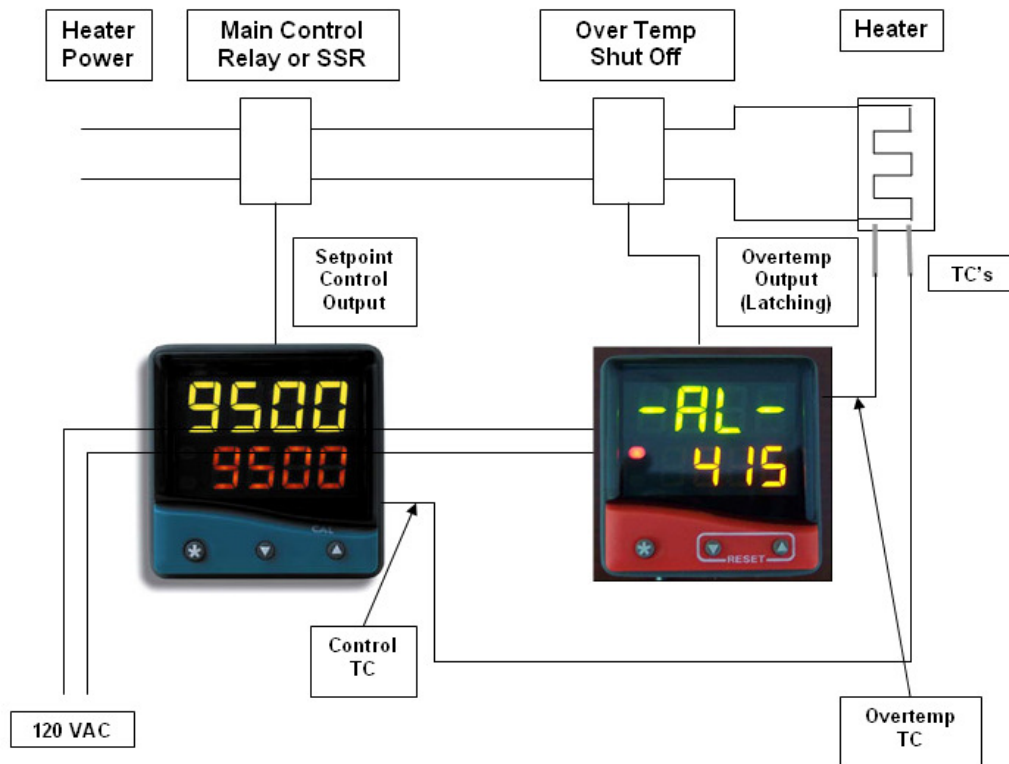
The Main Controller uses a PID or similar process to provide precise temperature control. The main control relay is cycled as required.

The Overtemp Alarm is placed in on-off mode. Its outputs are set to latch off when the alarm limit temperature is exceeded. The Overtemp Relay should be a heavy duty mechanical contactor. Since it is rarely cycled, it has a long life. Use large contact ratings to assure reliability.

Additional Applications Notes and Tables are available at www.AdvIndSys.com/ApplicationsNotes.htm .