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INSTRUCTIONS FOR 2-TCLIMIT CARD

The 2-TCLIMIT card is designed to work with specifically “K” Thermocouple.

Before applying power, make sure that the thermocouple input is connected properly to 2-TCLIMIT:
REVERSED thermocouple input polarity will result in heater meltdown!

THEORY of OPERATION

The 2-TCLIMIT card works as a 2-zone over temperature limit for the input command signal of an SCR power controller or SSR. If the temperature set point is exceeded, the 2-TCLIMIT card will reduce the DC command signal (4-20mA or 5-32 VDC) in series between the PLC/temperature controller and the SCR power temperature control or SSR. This allows the system to work with two zones with minimal signal loss. Remember, this is an over temperature limit. It is not designed to control a desired set point of the heater.

INSTALLING & WIRING

Make sure the DC command signal is connected in the correct polarity. Reversed polarity will result in no voltage applied to heaters.

The 2-TCLimit cards use two (2) separate “K” thermocouples to measure the process temperature. Yellow “K” thermocouple wire is positive “+”. Red “K” thermocouple wire is negative “-“.
Reversing thermocouple wires will result in heater meltdown!!

If you are testing the 2-TCLimit card before installation, make sure you have some resistance in series with the mA loop. A 200 – 500 ohm resistor is ideal. If the signal wiring to the SCR power control is in place, simply put a mA meter **in series** with the mA signal path. Do not take a reading across the 4-20mA terminals in the SCR.

GREEN LED shows power is on.

YELLOW LED “off” shows the set-point alarm temperature has been exceeded and the 2-TCLimit has activated a shut down of the series DC command signal. If YELLOW LED is on, the DC command signal is being passed to the SCR/SSR.

WARNING:

The maximum element temperature set point should not be adjusted (after installation) by the user unless approved by Avatar Instruments, Inc. Any unauthorized adjustments by customer may void warranty of heater, SCR power controllers and system components.

WARNING:

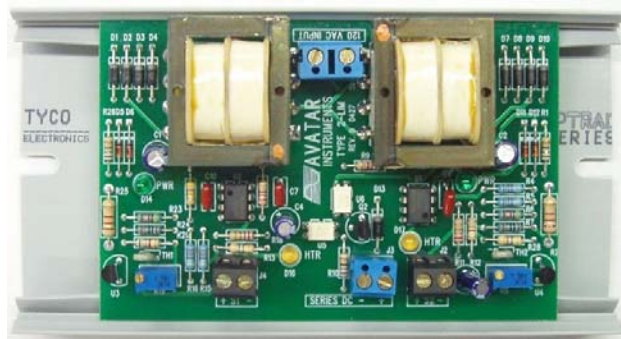
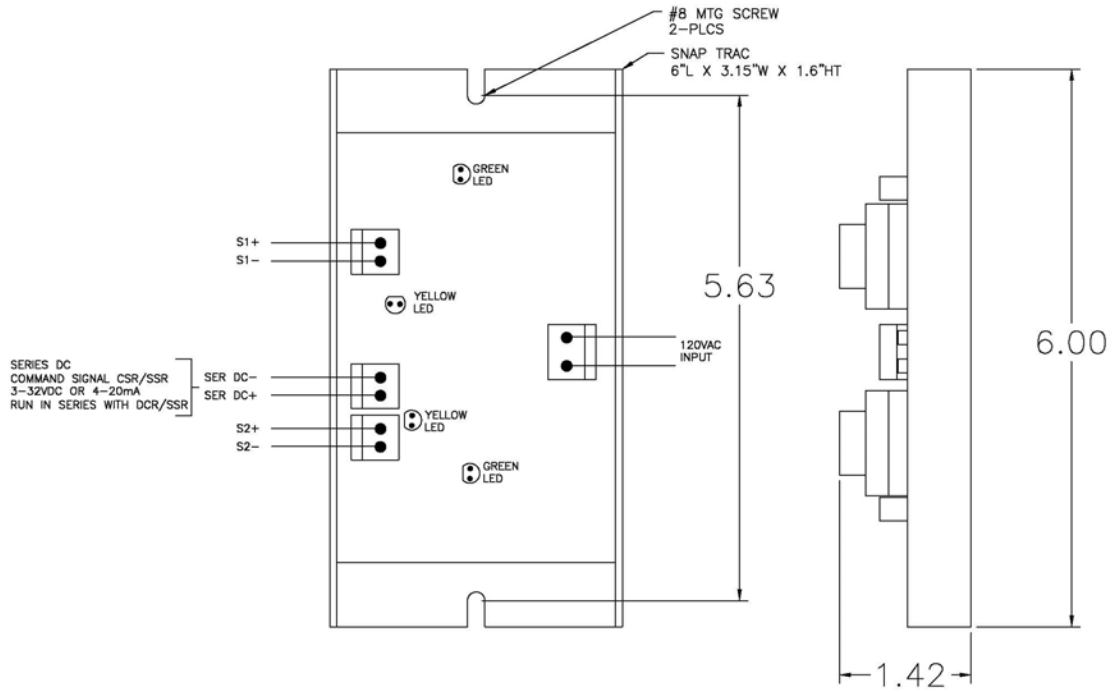
The 2-TCLIMIT cards are pre-wired for 120VAC power input. The terminals into the power supply are marked on the circuit boards for 120VAC. **DO NOT** put any voltage other than 120VAC in to 2-TCLimit card! Application of higher voltage will result in power supply failure.

Improper thermocouple sensor placement, thermocouple location, temperature control tuning of misapplication of TC-Limit will result in heater failure.

Using with Osram Sylvania SureHeat@MAX:

The 2-TCLimit can be used with the new Osram Sylvania SureHeat@Max heaters.

S1 is pre-set for 300°F K (inlet air temp) and S2 is pre-set for 1400°F K (outlet air temp).



2TC LIMIT CARD

SPECIFICATIONS

INPUT SIGNAL:

- SERIES DC.....4-20mA, 5-32VDC Pulsed
- IMPEDANCE SERIES DC.....1.5V (75 OHM INPUT)
- S1:.....Type K Thermocouple
- S2:.....Type K Thermocouple

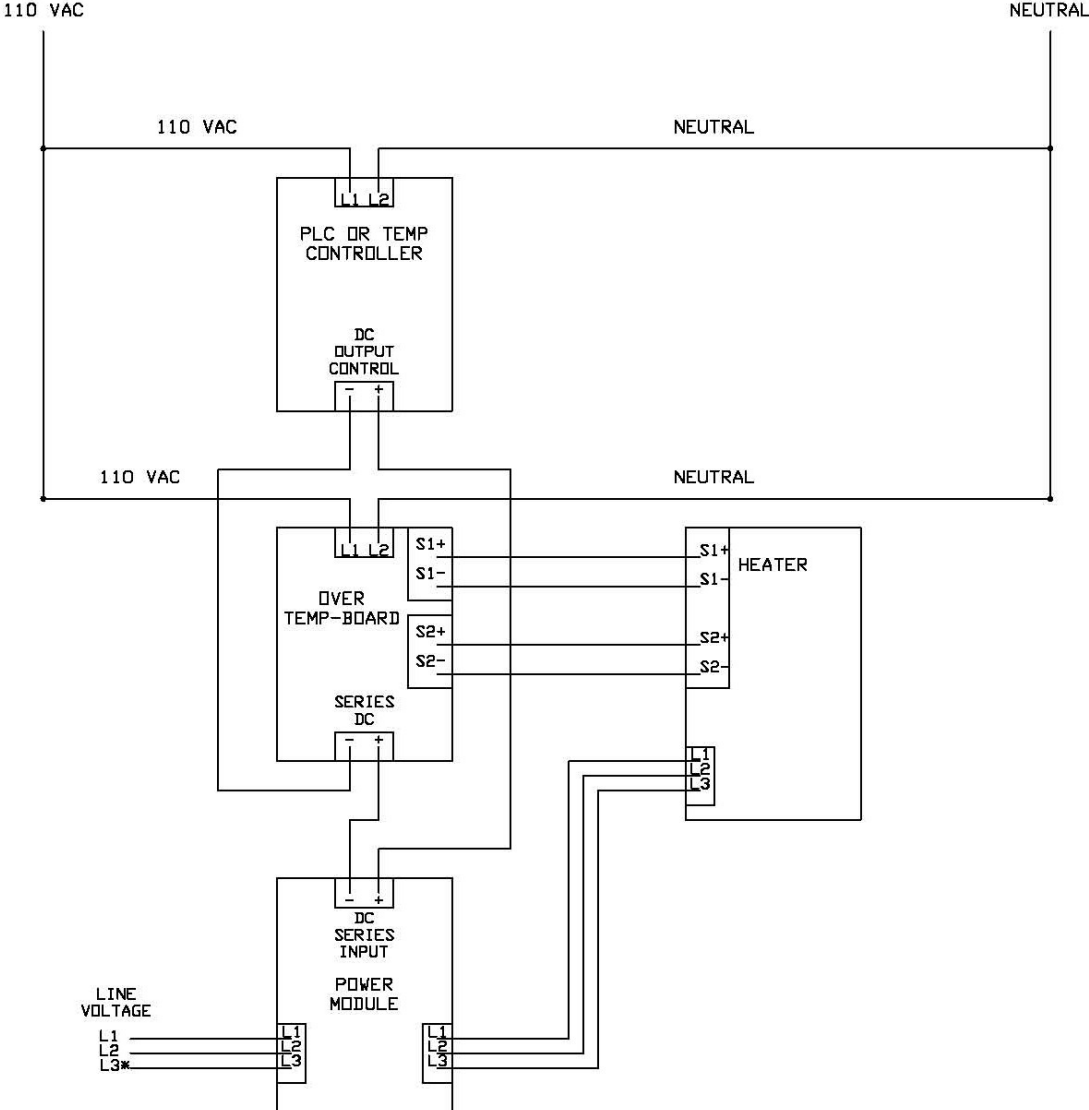
POWER REQUIREMENT:5W @ 120 VAC

ISOLATION:

LINE - SIGNAL.....2500 VAC

WEIGHT:1 LB

WIRING DIAGRAM



*NOTE: L3 ONLY
REQUIRED FOR
3Ø APPLICATIONS