

Description of Controls and Connectors

Controls and connectors are indicated in **Figures 2** and **4**.

MAINS switch (rear panel)

Controls mains (line) voltage to the controller unit. When this switch is on (|), the unit is operational except for the detector filaments (see next paragraph) and the detector heater will operate if connected.

FILAMENT switch and indicator

Controls power to the detector filaments; when the switch is on, current passes through the filaments. The indicator will light even if the detector is not connected to the controller.

DETECTOR TEMPERATURE control and indicator

Sets the temperature (°C) of the detector heater block. The indicator is steadily on when maximum power is being applied to the heater, steadily off when no power is applied, and regularly blinking on/off when the set temperature has been established.

Note that due to the fail-safe mechanism designed into the temperature controller, the heater will not operate if mains power is applied before the heater is connected or if the detector is too cold ($< 0^{\circ}\text{C}$). If the heater is disconnected with mains on, the unit must first be turned off to restore control of the heater; if the unit is operated in a very cold environment, the detector should first be gently warmed without power applied.

The fail-safe mechanism will also act under any condition resulting from loss of control (e.g., over-heating, RTD failure, etc.). If proper procedures have been followed and the controller will not heat the detector, there is cause to suspect that the fail-safe mechanism has been activated. Consult the factory or an authorized representative. Note that the maximum temperature for operation of the TCD2 is 300°C .

FILAMENT TEMPERATURE switch

Separate 10-turn knobs control Filaments A and B. The value displayed corresponds to temperatures indicated in **Figure 3** for nickel/iron filaments.

COARSE ZERO control

Once filament temperature has been applied, the Coarse Zero knob makes coarse adjustments of the zeroing voltage supplied for establishing the baseline zero on both the strip chart output and the integrator outputs.

FINE ZERO control

Once coarse adjustments have been made, the Fine Zero control is used to make fine adjustments in the output signals.

ATTENUATION control

The Attenuation control determines the attenuation of the signal for the chart output.

RECORDER switch

The Recorder switch selects which signal is directed to the chart output. The choices are **A**, **B**, or **A - B** (or A minus B, which is conventional differential operation with the B channel representing the reference.) The selected output signal is displayed in the LCD display.