Operating Instructions
Temperature Controllers
(old models)

Eurotherm 103
CAL 8000
CAL 9000, 9900
Tempatron TR32
Every Controls EC3-133

This is a “retro” manual for use with the above controllers.

Pictures in the manual are not to scale.

See also the main manual for the furnace, oven or other product to which the controller is fitted.
1 **EUROTHERM 103**

The 103 is an analogue controller with a simple thumbwheel setting.

Open the controller cover door and use the thumbwheel to adjust the desired temperature.

The column of LEDSs gives a bar graph indication of furnace temperature relative to the desired temperature.

The output light indicates when the controller is requesting heating.

2 **CAL 8000**

Cal 8000 is an analogue controller with a simple dial setting.

Rotate the dial to set the desired temperature. It is possible to lock the dial into position if required, using a small screwdriver.

An indication of the difference between the furnace temperature and the controller's set temperature is given by three LEDs above the dial. When the measured temperature is below the setpoint, the left hand LED lights up; when above, the right; when the furnace is at the setpoint temperature, the centre LED lights up.
3 **CAL 9000**

Cal 9000 and 9900 are digital PID controllers.

The display shows the actual temperature measured inside the furnace. Press the * button to display the desired setpoint temperature. Change the setpoint by pressing the "Up" or "Down" buttons while holding the * button depressed.

It is possible to adjust the display to show setpoint temperatures much higher than the maximum furnace temperature. These values are rounded down to a safe level before the controller loads them into memory.

The output light indicates the state of the controller's output signal to the solid state relay, which in turn switches the power to the heating elements.

A column of LEDs to the left of the temperature display gives a bar graph indication of the furnace temperature relative to the desired temperature.

For operation, see CAL 9900.

4 **CAL 9900**
5  **Tempatron TR32**

Start-Up Sequence. On switching on the instrument goes through a start up procedure which takes about 4 seconds to complete. During this time all segments of the display will flash. The controller then reads the process temperature.

Displaying the Set-Point. Press and hold the SET key. The display shows the set-point (SP) and the led OP flashes. Release the SET key to return to the process variable (PV).

Adjusting the Set-Point. Press and hold the SET key, then adjust the set-point by pressing the UP or DOWN key. Release the SET key to return to the measured value.

**Note**: the decimal point in the display is not normally visible.

6  **Every Control EC3-133**

This controller is identical to the Tempatron above, except for the front panel graphics.

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*For preventive maintenance, repair and calibration of all Furnace and Oven products, please contact:*

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