

## **Application Note:** **Rhomberg's range of temperature controllers** **- the complete solution**

Rhomberg's 'Thermoline' range of temperature controllers is available in a variety of models, tailor-made to suit customers' requirements. New software has made the programming of the units a lot more user friendly.

Top of the range is the Thermoline TC600, a four-digit, dual display temperature controller with all the features required for precision temperature control. There are three types of control outputs: an 8 A relay output for direct switching of loads, solid state drive for indirect switching of larger loads and analogue outputs of 4 to 20mA, 0 to 20mA, 0 to 5V or 0 to 10V. It has three control modes: PID Autotune allows the temperature controller to automatically adjust the P, I, D and anti-reset wind-up terms for minimal setpoint overshoot and fastest time to setpoint; an On/Off control with adjustable hysteresis for less critical applications. It also offers a trip and recovery control mode with dual relay outputs to allow the independent control of heating and/or cooling elements within one system.

The economic Thermoline TC515 has a three digit dual display and PID control with programmable P, I and D and anti-reset wind-up terms. The unit is keypad programmable for use with nine sensor types. It also offers a unique 16 hour pre-select timer after which the process shuts down. Simultaneous display for the process and setpoint temperatures furthermore make it easy to identify possible deviations.

The unit has two programmable alarm levels that can be used in 12 different modes. There is a choice to use either an upper or lower alarm level - or both. In addition the 8A-relay output can be programmed for normally open or normally closed operation. An optional output is available to directly switch solid state relays. The features of the Thermoline TC515 are also incorporated in that of the TC600.

The low-cost Thermoline TC410 dual display temperature controller offers selectable PID control for accuracy and stability or On/Off control for less sophisticated applications. The unit is factory programmable to accept various sensor types.

All the units are now programmed from the front keypad. Recent modifications to the design have also enhanced the immunity to EMI.

Thermoline temperature controllers are easily installed and sensors are easily replaced, thanks to a reliable plug connector system. Easy set-up is provided through a user-friendly installation manual. Offered in a 48x48mm housing format the product provides customers the benefit of inter-changeability with other temperature controllers.

