

TEMPERATURE CONTROLLERS

TC200D

DIGITAL SET TEMPERATURE CONTROLLER

Key features:-

- 96 x 48 mm front of panel mounted unit
- Digital thumbwheel setting of temperature
- LED indication of relay state
- Meter indication of actual/set temperature deviation
- 10 Amp switching capability

Process temperature is set using a three digit switch on the front facia. Each unit can be supplied with the switch mechanically limited on the hundreds digit, thus preventing an over-setting of temperature.

Standard units use a 10 Amp SPCO relay to control power to the heater circuit. Two LEDs on the front facia indicate the relay status: 'I' lights when the relay is energised (process heating); 'O' indicates that the relay is de-energised (process cooling). Versions are also available with a DC output (in place of the relay), suitable for driving a remote solid state relay.

A 'duty ratio' potentiometer on the front facia allows the operator to vary the temperature control characteristic: when this is set to '0' (fully anti-clockwise), the unit gives a purely on/off control; as the duty ratio is turned clockwise, the switching rate becomes progressively quicker. The duty ratio control is set to give the best balance between relay life and control accuracy, a typical switching rate being one or two cycles a minute. The front facia 'deviation meter', scaled from -20 to $+20^{\circ}\text{C}$ of set point, indicates the variation between the preset and actual temperatures.

Each TC200D is supplied pre-calibrated for use with one of several common thermocouple types. Cold junction compensation and thermocouple break protection (where the controller switches off the heaters if a loss of thermocouple signal is detected) are fitted as standard.

All units are housed in a 48mm wide by 96mm tall casing, designed for front of panel mounting in a standard DIN sized cut-out. According to preference, electrical connection may be either by screw or $\frac{1}{4}$ " blade terminals.

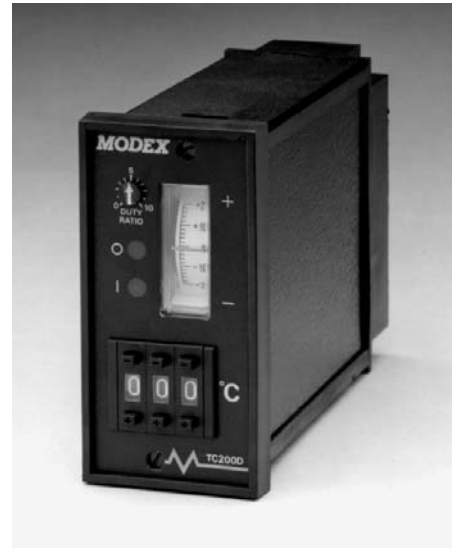
Variations on the standard unit are also available, including special supply voltages and sensor types, dual units (in a 96mm square case) and solid-state relay outputs. Please contact Modex with details of your requirements.

When ordering, please specify:

- Product type number (TC200D)
- Terminal type (blades or screws)
- Supply voltage (e.g. 230V AC)
- Thermocouple type (e.g. J type)
- Maximum temperature setting (switch limit, e.g. 399°C)

Accessories:

- Thermocouples** Please call for details of our custom thermocouple service, or refer to section 10 of our catalogue.
- Varnish Coating** PCB coating. Recommended for tropical, humid or freezing conditions.



Specification

Power supply:

operating voltages	dual supply (blade type) or single supply (screw type), 230V AC (200-250V AC) and/or 110V AC (100-125V AC)
power consumption	< 4 VA

Control:

standard thermocouple types	J (Fe/Con) or K (NiCr/NiAl)
deviation meter range	-20 to $+20^{\circ}\text{C}$ of set point
operating differential	< $50\mu\text{V}$ (typ. $<1^{\circ}\text{C}$)

Relay outputs:

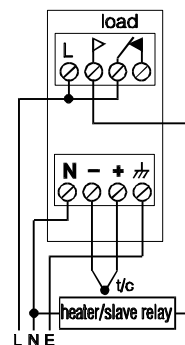
(ratings for resistive load)
SPCO contacts, rated 10A @ 240V AC, 2×10^5 operations

Physical:

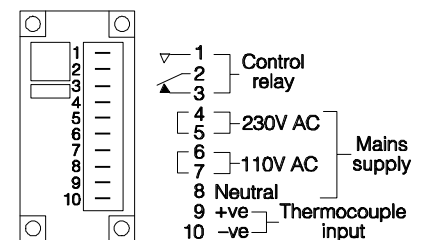
operating temperature	-10 to $+55^{\circ}\text{C}$
weight	approx. 410 g

Connection

SCREW TERMINAL TYPE



BLADE TERMINAL TYPE



Dimensions (mm)

