

TEMPERATURE CONTROLLERS

TC1000D series

DIGITAL SETTING TEMPERATURE CONTROLLERS

Key Features:

- Robust, metal cased design
- 96 x 96 mm panel size
- High current (20 Amp) switching capability
- Digital thumbwheel setting of temperature
- Temperature 'deviation' meter
- Optional over or under temperature trip relay

Control temperature is set on the front facia using a 3 digit thumbwheel switch. The hundreds digit may be mechanically limited to prevent the over-setting of process temperature.

At power up, the TC1000D measures the actual process temperature (through a remote thermocouple) and compares this to the temperature set on the front facia. Power to the heaters is then controlled through a volt-free relay output.

Two front facia LEDs indicate the relay state: 'I' lights when the control relay is energised (process calling for heat); 'O' lights when the relay is de-energised (process cooling).

A 'deviation' meter, scaled from -20 to $+20^{\circ}\text{C}$ of the set point, indicates the difference between actual and set temperatures. An optional trip relay is also available: this is factory set to trip at a customer specified number of degrees above or below the set temperature, allowing for the remote warning of an excessively hot or cold process temperature.

Each TC1000D is supplied pre-calibrated for use with one of several thermocouple types, including the most common J and K types. Automatic cold junction compensation and thermocouple break protection are fitted as standard.

Electrical connection is through screw terminals at the rear. Each controller is housed in a robust metal casing, designed for mounting in a DIN standard 96 x 96 mm panel aperture.

Variations on the standard range are also available, including non-standard supply voltages and solid state relay outputs. Please contact Modex with your requirements.

Standard units:-

- TC1000D** Standard controller with deviation meter.
TC1000DT As TC1000D plus additional trip relay.

When ordering, please specify:-

- Product type number (e.g. TC1000D)
- Supply voltage (230 or 110 VAC)
- Thermocouple type (J or K type)
- Maximum temperature setting (switch limit, e.g. 399°C)
- Trip relay setting ('T' units only, e.g. $+10^{\circ}\text{C}$ of set point)

Accessories:-

- Thermocouples:** Please call for details of our custom thermocouple service, or refer to section 10 of our catalogue.



Specification

Power supply:

operating voltages	230V AC (200 – 250V AC) or 110V AC (100 – 125V AC)
power consumption	< 15 VA

Control:

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

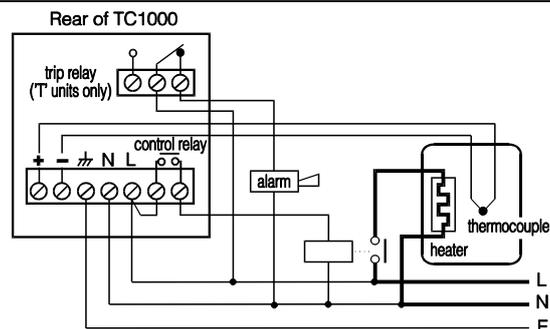
Relay outputs:

control relay	(ratings for resistive load) SPNO contacts, rated 20A @ 240V AC, 5×10^4 operations
trip relay ('T' units only)	SPCO contacts, rated 5A @ 240V AC, 2×10^5 operations

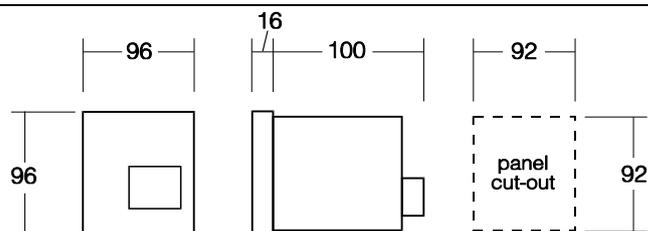
Physical:

operating temperature	-10 to $+55^{\circ}\text{C}$
weight	< 750 g

Connection



Dimensions (mm)



doc. ref. 080601 issue 2 31/7/97