

TEMPERATURE CONTROLLERS

TC500 series

ANALOGUE SETTING TEMPERATURE CONTROLLERS

Key Features:

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

The process control temperature is set on a large, rotary dial on the front facia. Three setting ranges are available: 0-250°C, 0-400°C and 0-800°C.

At power up, the TC500 monitors the actual process temperature (by use of a remote thermocouple) and compares this with the temperature set on the front facia. Power to the heaters is then controlled by the TC500's volt-free relay output.

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

An optional 'deviation' meter, scaled from -20 to +20°C of 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 TC500 controller 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, such as non-standard supply voltages and solid state relay outputs. Please contact Modex for full details.

Standard units are:

- TC500** Standard, basic controller.
TC500D As TC500 plus temperature deviation meter.
TC500T As TC500 plus separate trip relay.
TC500DT As TC500 but with both deviation meter and trip relay.

When ordering, please specify:

- Product type number (e.g. TC500)
- Supply voltage (230 or 110 VAC)
- Thermocouple type (J or K type)
- Temperature adjustment range (e.g. 0 - 250°C)
- Trip relay setting ('T' units only, e.g. +10°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 |
| temperature ranges | 0 - 250°C, 0 - 400°C, 0 - 800°C |
| operating differential | < 50µV (typ. <1°C) |
| deviation meter range | -20 to +20°C of set point |

Relay output:

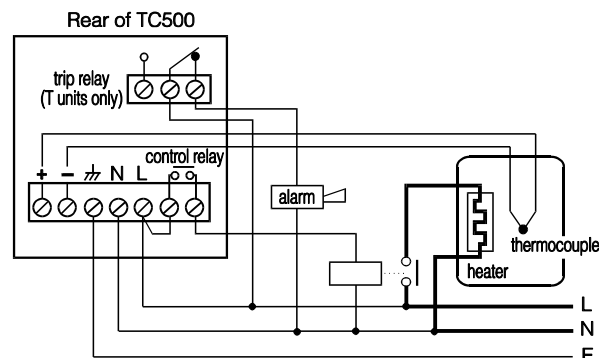
(ratings for resistive load)

SPNO contacts, rated 20A @
240V AC, 5 x 10⁴ operations

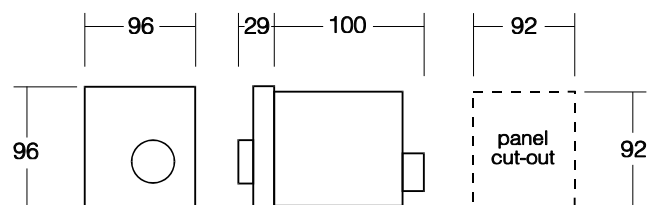
Physical:

| | |
|-----------------------|--------------|
| operating temperature | -10 to +55°C |
| weight | < 750 g |

Connection



Dimensions (mm)



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