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MINITHERM6-MCU™ Temp. Controller

Models Available
MINITHERM6-MCU
Quad Range Temperature Controller

Product Features

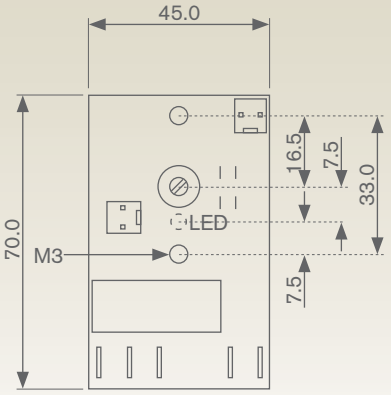
- Ideal for OEM heating and refrigeration
- 4 temperature range options
- For use with 10K NTC thermistor probe
- 16 Amp changeover relay output
- 110Vac, 230Vac or 24Vdc powered
- Energy regulation feature
- Lockpot operation feature
- Onboard LED or optional remote LED

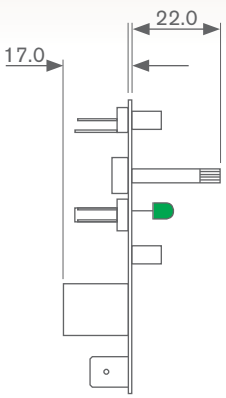
The Tempatron MINITHERM6-MCU™ quad range temperature controllers are designed for a wide range of OEM heating and refrigeration applications, and are ideal for replacement of electromechanical controls. Any one of four commonly used temperature ranges can be selected by cutting just two wire links. They are available in 110Vac and 230Vac versions (or 24Vdc to special order) with a 16 Amp changeover relay output and are compatible with industry standard 10K (@25°C) NTC thermistors.

These chassis mounting modules measure only 70mm x 45mm and have an integral energy regulation feature (link selectable) which reduces the connected heating/cooling power to 33% duty cycle as the temperature approaches the setpoint. An onboard (or optional remote) LED indicates current temperature status and diagnostic conditions.

For temperature control in machinery, systems and operational processes

Dimensions



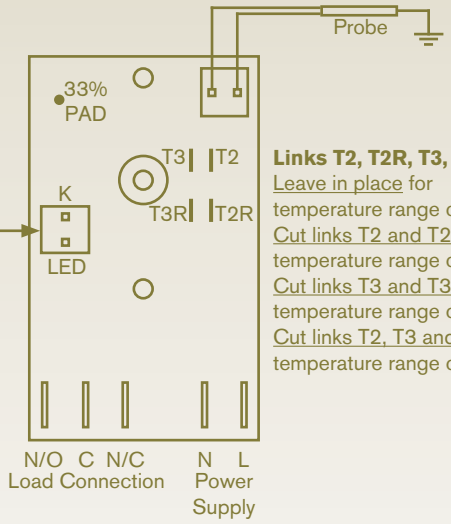


All dimensions in mm

Connections

Note:
The thermistor connections are not isolated from the AC supply.

The unit is set for onboard LED indication.
To select **remote LED** indication, 'spin cut' the copper pad adjacent to the LED to disconnect the onboard LED. Connect the remote LED to the 2-pin **LED** Molex header (ensuring LED cathode is connected to pin **K**).



Links T2, T2R, T3, T3R
Leave in place for temperature range of 73 to 99°C
Cut links T2 and T2R for temperature range of 22 to 54°C
Cut links T3 and T3R for temperature range of -20 to +6°C
Cut links T2, T3 and T3R for temperature range of 4 to 34°C.

33% Duty Cycle
This feature cycles the output on for 6.4 seconds every 19.2 seconds as the temperature approaches the setpoint. This can reduce over/undershoot in many basic temperature control applications. It is primarily intended for heating applications. 'Spin cut' the pcb pad (copper side, top right) adjacent to the 8-pin integrated circuit to enable this feature.

Ordering information

Model	Code	Description
	MINITHERM6-MCU	Quad Range Temperature Controller T1: 73 to 99°C T2: 22 to 54°C T3: -20 to +6°C T4: 4 to 34°C

Auxiliary Power	Code	Description
	110V	110Vac
	230V	230Vac
	24V	24Vdc

Example **MINITHERM6-MCU-230V**

LOCKPOT™ Operation

This feature allows the potentiometer setting to be locked, thereby eliminating unauthorised adjustment of the temperature control.

To use this feature simply:

1. Set up the required temperature using the adjustment potentiometer.
2. Switch off the auxiliary power to the controller.
3. Insert the programming link into the 2-pin header marked **LP**.
4. Switch on the auxiliary power to the controller. The LED will blink on for 5 seconds indicating **LOCKPOT off**, then change to continuous flashing indicating **LOCKPOT on**.
5. Switch off the auxiliary power to the controller and remove the programming link.
6. Repeat above to re-select **LOCKPOT off**.

Specification

Power Supply Voltages:
- 110Vac (45-60Hz)
- 230Vac (45-60Hz)
- 24Vdc (to special order)

Supply Voltage Variation:
- ±15%

Burden:
- 3.8mA nominal (relay off)

Input:
- Non-isolated NTC thermistor (10K @ 25°C)

Temperature Ranges:
- T1: heating 73 to 99°C (factory set)
- T2: heating 22 to 54°C (cut T2 & T2R links)
- T3: cooling -20 to +6°C (cut T3 & T3R links)
- T4: heating 4 to 34°C (cut T2, T3 & T3R links)

Output:
- Single pole changeover relay contact
- 16A at 240Vac/30Vdc (resistive)

Status LED Indication:
- Off, blinking on: On, temperature out of range
- Flashing on/off: On, temperature in range
- On, blinking off: On, nearing set temperature
- Continuous on: Off, at set temperature
- Flashing @ 2 seconds: Off, lockout failure

Electrical Connections:
- Five 6.3mm blades for power (L, N) & relay output (N/C, C, N/O)
- 2-pin molex connector for thermistor
- 2-pin molex connector for remote LED

Mounting:
- Two M3 fixing pillars spaced 33mm

Operating Temperature:
- -20°C to 65°C

Enclosure Code:
- Case IP00

Weight:
- 35g

Specification subject to change without notice.

Tempatron: Eltime House, Hall Road, Maldon, Essex, CM9 4NF UK.

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