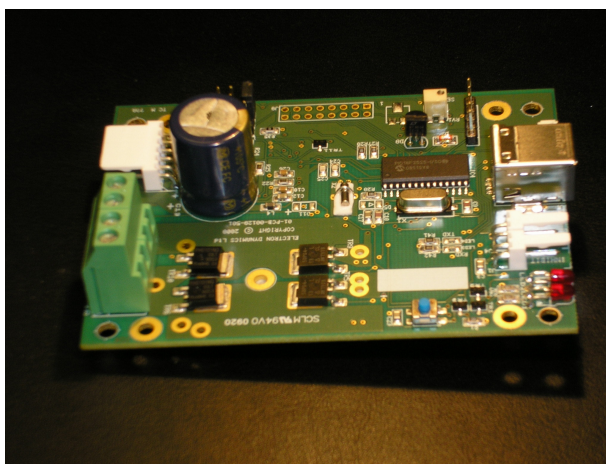


## TEC / Peltier Control Module TC M

Our TC-M series is a unique and high performance Bi-directional Temperature Control system. These are designed for use with Thermoelectric coolers, known as TECs or Peltier Devices.

### Features:

- Temperature control from  $-100\text{ }^{\circ}\text{C}$  to  $200\text{ }^{\circ}\text{C}$
- Resolution:  $0.001\text{ }^{\circ}\text{C}$
- PID auto tuning, Temperature cycling and ramping
- USB communication
- PWM output



TC M P 10A - PCB Assembly



TC M U 5A - Cased Unit

Dimensions 100mm x 78mm x 30mm

**Product:**

The product offers precise temperature control from  $-100^{\circ}\text{C}$  to  $200^{\circ}\text{C}$  and are able to cool or heat, which can provide stable temperatures with varying ambient conditions at up to  $0.001^{\circ}\text{C}$  stability. Parametric programmability allows access to output limits, PID terms, temperature alarms and operating modes. Several advanced features are included – auto-tuning of PID, temperature cycling and temperature ramping.

Typical uses for the controller would be with laser diodes, infrared detection, high gain amplifiers, cold plate assemblies, device measurement and process control. It is also suitable for controlling single and multiple TEC arrays. It has a pulse width modulated output, which provides a continuously variable output for cooling and heating as required.

It is programmable from a PC using the supplied software, allowing configuration and tuning to meet system requirements. Once programmed, the configuration data is stored internally in the controller allowing standalone operation. Its interface and command set allow the unit to be controlled remotely and can be integrated into a larger control system, where more sophisticated control of set point and alarms temperature settings is possible.

It also supports a range of different sensor types and its output is a DC continuously variable for cooling and heating as required.

**Product Types:**

The product is available in **Two major** types:

- TC M P: PCB assembly, suitable for OEM applications
- TC M U: Cased Unit, Suitable for stand-alone applications

These types can further be divided into following **Three** versions:

- TC M 5A: output – 0 A to 5 A, suitable for small TC applications
- TC M 10A: output – 0 A to 10 A, suitable for medium TC applications
- TC M 15A: output – 0 A to 15 A, suitable for larger TC applications

## Technical Specification

<b>Supply</b>	5v to 28v DC		
<b>Output</b>	Standard	0 to 5A (TC M 5A)	
	Intermediate output	0 to 10A (TC M 10A)	
	High output	0 to 15A (TC M 15A)	
	Bi-directional heating and cooling Variable output – 0 to 100% 0.1% resolution Variable PWM rate 20 Hz to 1000Hz		
<b>Control</b>	From PC on RS232 or USB Programmable PID terms Will operate as P, PI, PID or On/Off with Dead Band Resolution 0.001 °C Max stability 0.001 °C depending on set-up		
<b>Functions</b>	Auto-tuning sets up PID terms automatically Test cycling between 2 temperatures over <i>n</i> cycles Test ramping at defined rate between 2 temperature over <i>n</i> cycles		
<b>Set point</b>	Set either by pot, or by PC		
<b>Limits</b>	Set permissible temperature band for operation Prevents problems due to sensor faults and thermal runaway		
<b>Alarms</b>	PC configurable TTL output High temperature, Low temperature or Out of Band		
<b>Sensor</b>	PT100, PT1000, LM35, LM50, LM51, LM60, LM61, NTC Thermistor Other Versions Available		
<b>User</b>	Windows control software allows access to all parameters Via commands can be controlled within a process environment		
<b>Format</b>	Available as a PCB assembly or Cased Unit		
<b>Approvals</b>	CE Approved, ROHS Compliant		
<b>Models PCB</b>	TC M P 5A	TC M P 10A	TC M P 15A
<b>Case Unit</b>	TC M U 5A	TC M U 10A	TC M U 15A

**For further information & pricing,**  
 please contact [enquiries@electrondynamics.co.uk](mailto:enquiries@electrondynamics.co.uk) or call  
 sales on 02380 480 800 or 0800 954 260