

## Model TM-600 Cryogenic Temperature Monitor

Cryomagnetics' Model TM-600 Cryogenic Temperature Monitor utilizes the latest technology to provide precision temperature monitoring at a reasonable cost. Many applications require only a precision temperature monitor – not an expensive temperature controller.

Many precision temperature sensor types can be monitored. This includes ruthenium-oxide, platinum, and others. With adjustable current source(s) and the ability to store temperature sensor curves, the TM-600 is compatible with virtually all temperature sensors.

The easy to read 2-line vacuum fluorescent display clearly indicates temperature in Kelvin, Celsius, Fahrenheit, or ohms. Convenient temperature autoranging minimizes user intervention. Spline interpolation provides optimal utilization of sensor calibration data.

High and low setpoints can be used to warn of temperatures outside a specific range. When the temperature falls outside this range, a control output signal is activated (TTL or open collector). This feature is useful for monitoring temperature of lambda plate operation, cryostat shields, closed-cycle refrigerator systems, sample temperatures, etc.

An audible alarm with high and low setpoints is also included. When temperature falls outside a range you set, the alarm becomes active. The audible alarm can be silenced if desired. An annunciator is displayed on the front panel whenever the alarm is active.

Resolution is sensor and temperature dependent. For a 100K ohm ruthenium oxide temperature sensor, resolution is 1 millikelvin in the temperature range of 1.5K to 40K. Even with inexpensive 100 ohm platinum sensors, the resolution is 10 millikelvin at 77K.

Two temperature sensors can be simultaneously monitored and displayed with the two-sensor option. These sensors do not have to be of the same type because of separate current control and feedback circuitry. Contact us today for complete specifications.

### *Standard Features:*

- Bright, two line vacuum fluorescent display.
- RS-232 computer interface.
- Standard curves for many temperature sensors.
- Capability to store custom curves.
- Temperature displayed in Kelvin, Celsius, Fahrenheit, or expressed as a resistance.
- Audible alarm (can be silenced).
- Control output with high and low setpoints.
- Monitors most resistive temperature sensors (ruthenium oxide, platinum, carbon, etc.).
- Simple keypad with good tactile response.
- LabVIEW® drivers available at no extra charge.

### *Optional Features:*

- Option 1: 0-1 volt Analog Output (4-20mA current loop available).
- Option 2: IEEE-488.2 Computer Interface.
- Option 3: Two Sensor Readout with separate high and low controller setpoints. Simultaneous sensor monitoring (even different type sensors).
- Option 4: 19" Rack Mountable

## The two line display provides more information to the user



Temperature  
1.632 °K

**Standard one channel display**

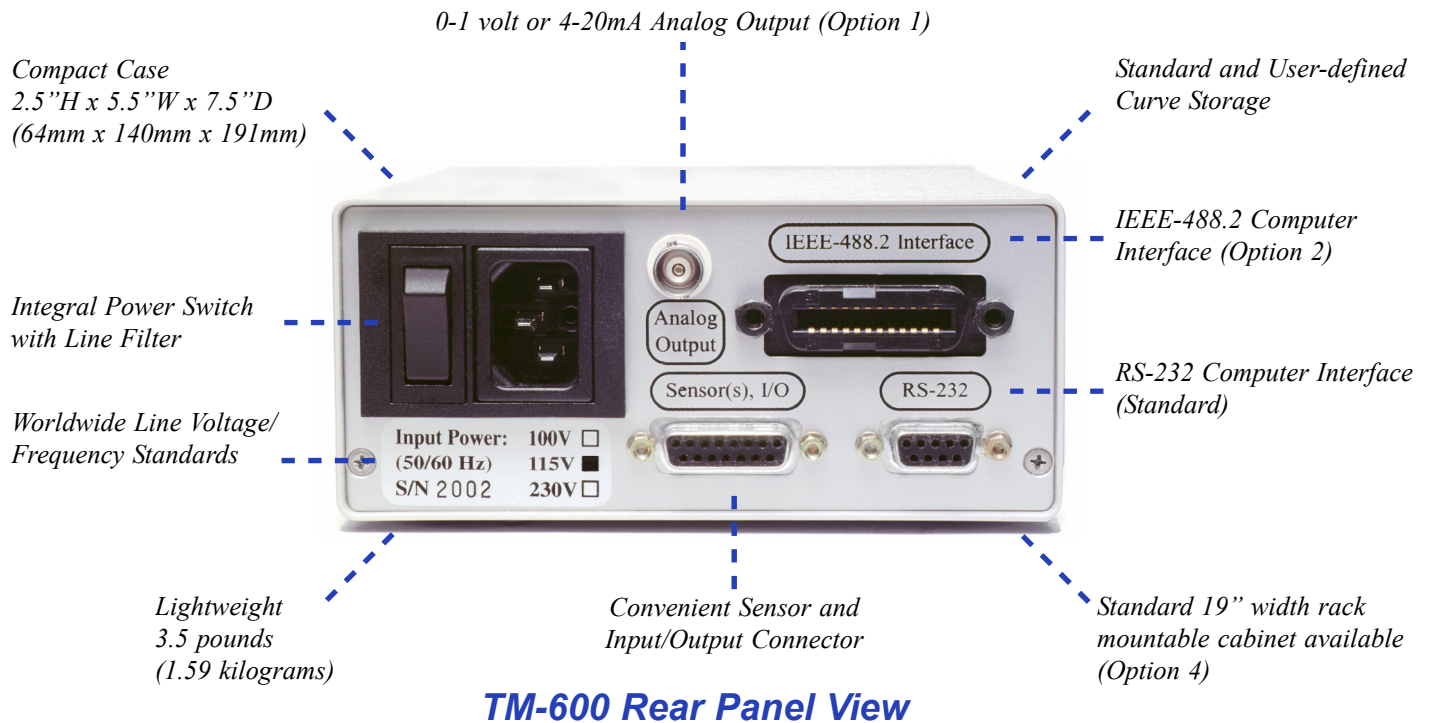
The bright display is easily viewed in most lighting conditions. A diamond shaped annunciator indicates temperature has reached the low setpoint and the controller output is active.



T1 1.632 °K  
T2 121.6 °K

**Standard two channel display**

Channel one's controller output is active. Channel two's controller and alarm are active. An alarm condition is indicated by the letter "A" to the right of the temperature display.



### Contact us today for information on the following products!

#### Model LM-500 Liquid Cryogen Monitor

It is now possible to purchase a liquid cryogen monitor capable of simultaneously monitoring and displaying up to two LHe, LN2, or other cryogenic liquid levels (requires appropriate sensors and 2-channel option).

#### Model GM-700 Hall Effect Gaussmeter

Accurately monitors industry-standard hall effect sensors as well as Cryomagnetics' high sensitivity, ultra-compact hall effect sensors. Unique relative function allows high resolution readout in high magnetic fields.