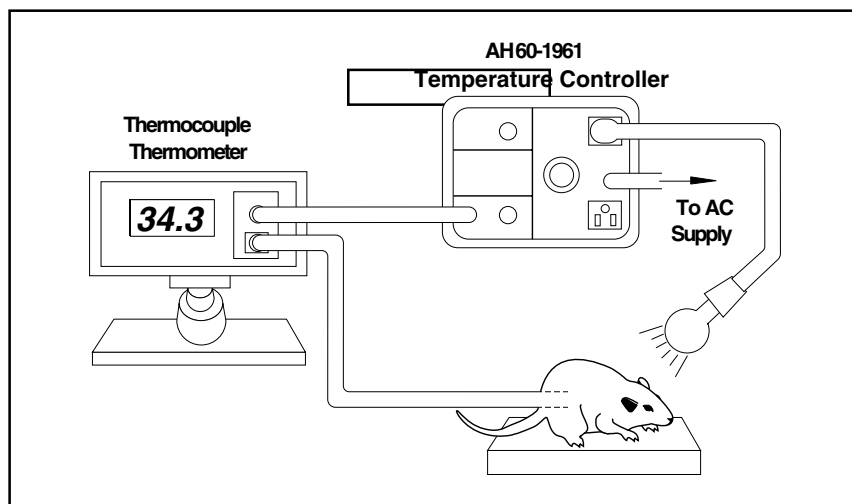


Thermocouple Temperature Controller



- Works with the Thermocouple Thermometers described on the preceding pages
- Controls heaters or coolers (not supplied)
- Provides an audible or visual alarm when used with optional Alarm Package
- Up to 1/2 kW output
- Temperature overshoot adjustment

This Temperature Controller works with a Thermocouple Thermometer and heating or cooling instrument to control the temperature of an animal. The Controller operates over the full temperature range of any of the Thermocouple Thermometers

These Thermometers continuously monitor the system performance and specimen temperature. This Controller is easy to setup and has an accuracy of 0.1°C.

Many temperature controllers have a tendency to 'overshoot' the set temperature, especially when the specimen has large thermal mass. This Controller has a power out-put knob that works like a 'dimmer switch'. It controls the output intensity of the thermal instrument permitting heating/cooling over its full range. This control greatly minimizes temperature overshoot which is especially important when working with live animals.

When this Control Unit is used for controlling the temperature of animals, heating can be provided by either conduction or radiation. For conductive heating the animal is placed on an electrically heated plate. A 115 volt heater element of about 25 watts is adequate for a 0.45 kg (1 lb) animal.

Most users, however, find it easier to provide radiant heat from an ordinary 60 watt light bulb or an Infrared Lamp and Adapter Cable offered as an accessory. The bulb does not contact the animal and represents very little thermal mass providing a shorter, more accurate control cycle. The Controller also provides subambient control when used with thermoelectric cold plates.

When the Controller is used for automatic temperature control of liquids, the liquid should be vigorously stirred to avoid temperature gradients of several degrees. Similarly when air or gas temperature is being controlled inside a chamber, a circulating fan (not supplied) will improve performance.

The Controller will also work with most instruments having a proportional DC output signal varying between 0 and 4 VDC.

An Alarm Package, offered as an accessory, includes an AC buzzer and flashing light bulb

adapter. The buzzer or bulb adapter plug into either of the AC outlets on the Controller. When the set high or low temperature limit is reached the buzzer will sound or the light will flash. A thermal instrument plugs into the other AC outlet to provide heating or cooling to the animal.

This Controller uses 115 V triacs. In countries which do not have 115 VAC as standard, this Controller can only be used with the use of a step-down transformer.

Specifications

Temperature Range	Same as the thermometer in use
Control Accuracy	0.5% of range of the thermometer in use
Input Resistance	> 100 kΩ
Accuracy of Set Point	0.25% of full scale with the Thermocouple Thermometer in use
Stability:	
Temperature	-0.004% / °C
Voltage	-0.003% / % line change
Output Sockets	2, standard 3-pin grounded receptacles
Output Power	Continuously variable up to 500 W (4.5 A at 115 VAC)
Dimensions, H x W x D	13.3 x 17.2 x 5.7 cm (5-1/4 x 6-3/4 x 2-1/4 in)
Weight	1.02 kg (2-1/4 lb)
Power	115 VAC, 60 Hz

Catalog No.	Product
CGS 8383.41	Thermocouple Temperature Controller
CGS 8382.41	Alarm Package
CGS 8381.41	Infrared Lamp and Adapter Cable, 250 W, to provide heat to the animal