

HALLIKAINEN

Instruments

INDUSTRIAL and SCIENTIFIC

750 NATIONAL COURT, RICHMOND, CALIFORNIA, 94804

RESISTOTROL TEMPERATURE CONTROLLER

Non-indicating resistance bulb type (Shell Development Co. Design)



Model 1215

SPECIFICATIONS

CASE—The case is made of 18 gauge steel with blue enamelled finish. Overall dimensions of the case are: 10 inches wide, 7 1/4 inches high and 8 inches deep. The panel is of 1/8 inch duraluminum. A pilot light on the panel indicates the action of the control relay.

POWER—30 watts at 115 volts, 60 cycles, no load.

CONTACT RATING—30 amps, 115 volts, AC non-inductive.
20 amps, 220 volts, AC non-inductive.

CONNECTIONS TO CASE—Terminal board on back of sub-base, with removable cover on case.

SENSITIVITY—The sensitivity of the RESISTOTROL expressed as the temperature difference between "on and off" operation (or dead zone) is 0.001°C. When used with a bath, the control accuracy of any temperature controller depends on many factors other than the controller itself; such as; time constants, mass and configuration of the thermometer sensing element, heater, bath tank and other components, as well as stirring efficiency, insulation, etc. For this reason, the sensitivity characteristics of the controller are listed rather than how accurately it will control a bath temperature.

WEIGHT—15 pounds.

PRINCIPLE OF OPERATION

The RESISTOTROL is a general purpose temperature controller for laboratory or industrial use. It is designed to operate as an on-off controller.

A resistance thermometer sensing element is used as the variable arm in an A.C. Wheatstone bridge circuit. The bridge is operated at balance by means of an adjustable ratio arm which selects the temperature setting. A change in thermometer resistance produces an A.C. voltage which is amplified by a resistance coupled amplifier. This amplified A.C. voltage is then applied as a bias voltage to a thyratron tube energizing an enclosed mercury switch which turns a heater on and off.